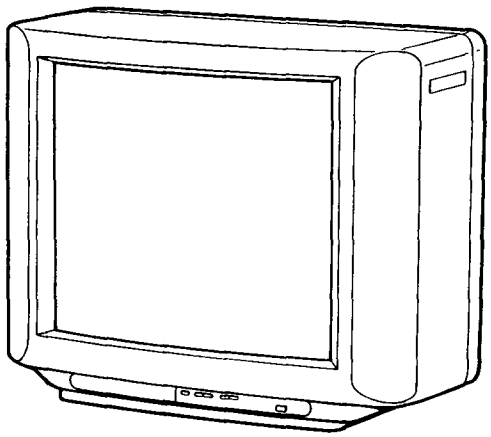
KV-2166MNT
RM-827T

SERVICE MANUAL

GE Model
Chassis No. SCC-F24D-A



G 3 E CHASSIS

MODELS OF THE SAME SERIES	
KV-2166MNT	
KV-2185GE	
KV-1485GE	

SPECIFICATIONS

Power requirements	110–240 V AC, 50/60 Hz
Power consumption	Indicated on the rear of the TV
Color system	PAL, PAL60, NTSC4.43, NTSC3.58, SECAM

Television system and Channel coverage

Television system	M	B/G	I	D/K
Low VHF band	A2–A6	E2–E4	–	R1–R5
High VHF band	A7–A13	E5–E12	–	R6–R12
UHF	A14–A79	E21–E69	B21–B68	R21–R60
CATV	–	S01–S03 S1–S41	–	–

Audio output	3 W+3 W
Inputs	Antenna: 75 ohms VIDEO INPUT 1, 2 jacks Phone jacks Video: 1 Vp-p, 75 ohms Audio: 500 mVrms, high impedance
Output	Headphone jack: mini jack
Picture tube	Approx. 54 cm (21 inches)
Dimensions	Approx. 600 × 459 × 473.5 mm (w/h/d)
Weight	Approx. 24.3 kg

Design and specifications are subject to change without notice.

MICROFILM

TRINITRON® COLOR TV
SONY®

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CAUTION

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

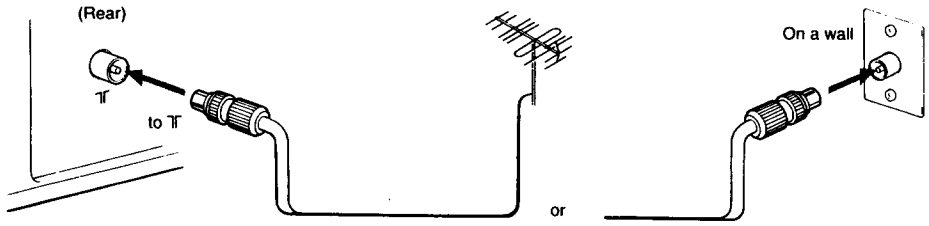
SECTION 1
GENERAL

The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remein as in the manual.

1-1. ANTENNA CONNECTION

To connect a VHF antenna or a combination VHF/UHF antenna– 75-ohm Coaxial Cable (Round)

Plug the connector into the 𝍐 socket of the TV.

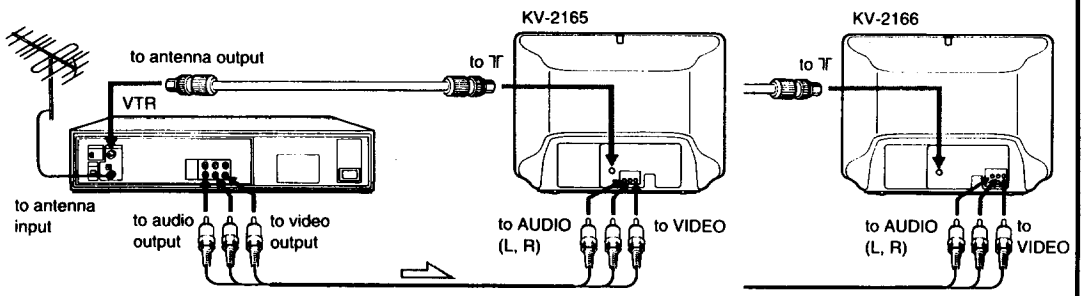


1-2. CONNECTING VTR OR OTHER EQUIPMENT

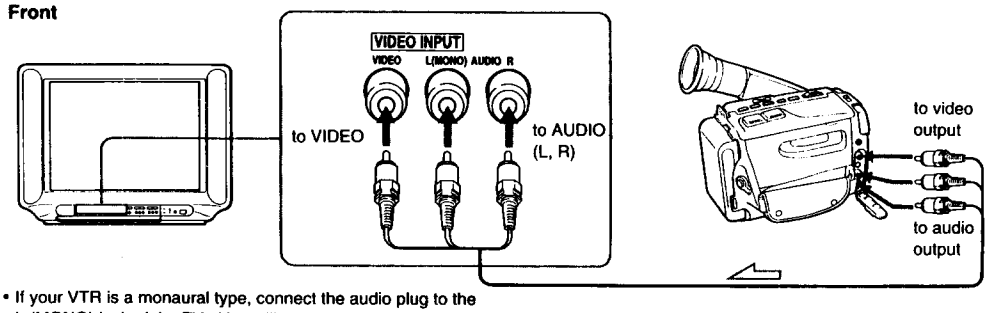
Rear

You can connect the antenna through VTR. Use an IEC antenna connector and an audio/video cable.

: Signal flow



Front

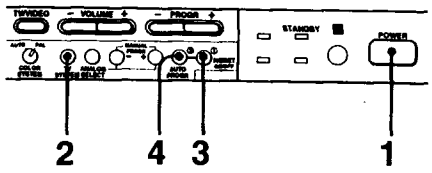


• If your VTR is a monaural type, connect the audio plug to the L (MONO) jack of the TV. You will receive monaural sound from both speakers.

2

1-3. PRESET THE CHANNELS AUTOMATICALLY

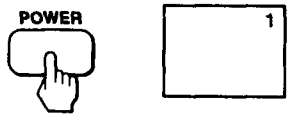
Up to 30 channels (1 to 29, 0) can be preset in numerical sequence from program number 1.



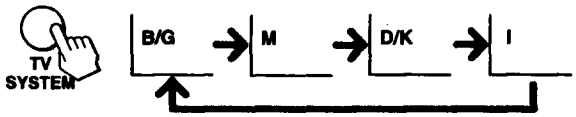
Note

A channel may be preset twice by the automatic presetting. If you do not want the same program to appear twice while selecting the program, skip the program position (see "Skipping Program Positions).

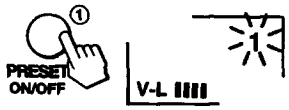
1 Press the POWER button.



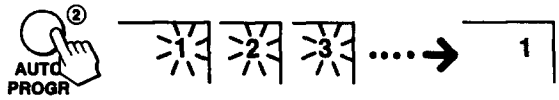
2 Press the TV SYSTEM button to select your local TV system (except for KV-2166AS).



3 Press the PRESET ON/OFF ① button.



4 Press the AUTO PROGR ② button.



1-4. ADDITIONAL PRESETTING

Manual Presetting

To change the program number for a channel, or to receive a channel of weak signal, preset the channel manually.

Example: To preset a channel in program number 8

1 Press the PRESET ON/OFF button.

2 Press the PROGR +/– button until "8" appears.

3 Press the TV SYSTEM button to select your TV system (except for KV-2166AS).

4 Press the MANUAL PROGR +/– buttons until the channel you want appears.

5 Press the PRESET ON/OFF button.

To preset other channels, repeat steps 1 through 5.

Skipping Program Positions

You can skip the unused or undesired program position when you are selecting a program using the PROGR +/– buttons.

Example: To skip the program position 8

1 Press the PROGR +/– buttons until "8" appears.

2 Press the PRESET ON/OFF button.

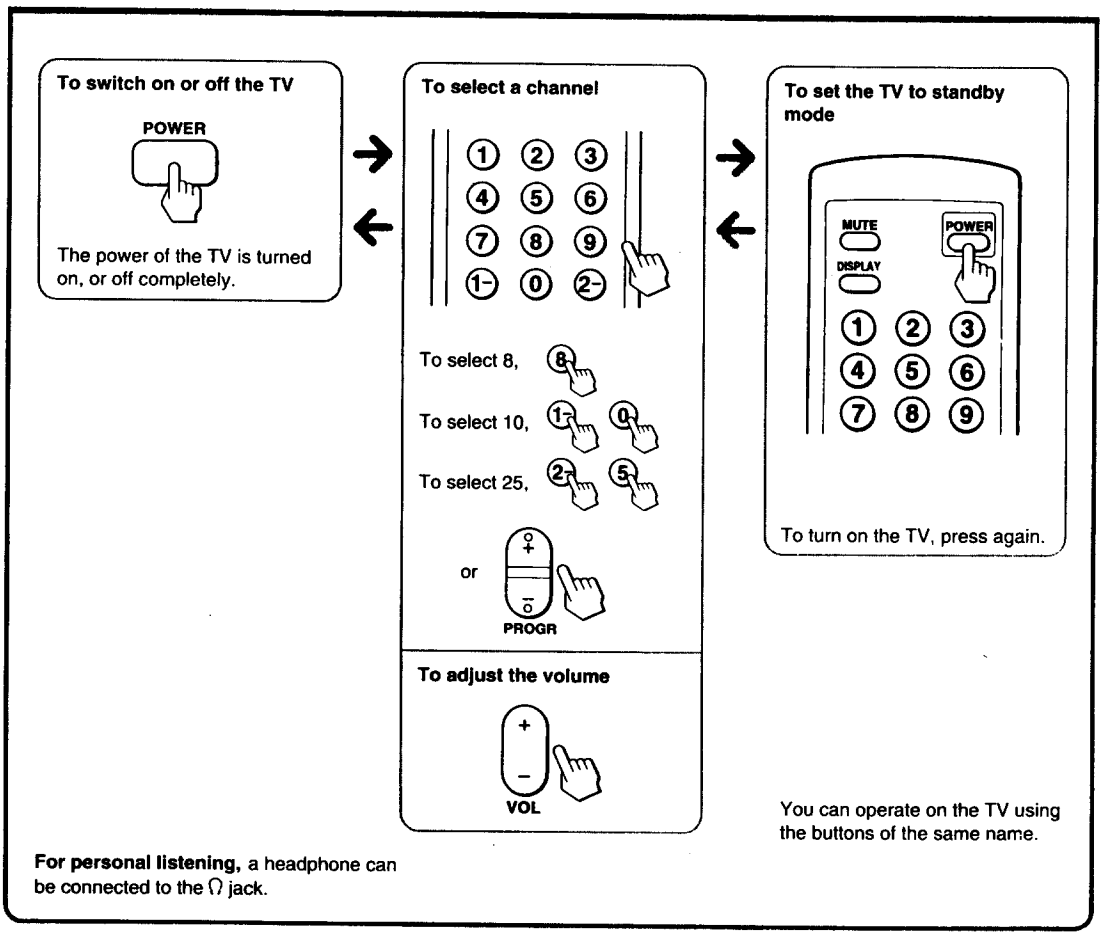
3 Press the PIC MODE button on the Remote Commander.
Repeat steps 1 through 3 to skip other program position.

4 Press the PRESET ON/OFF button.

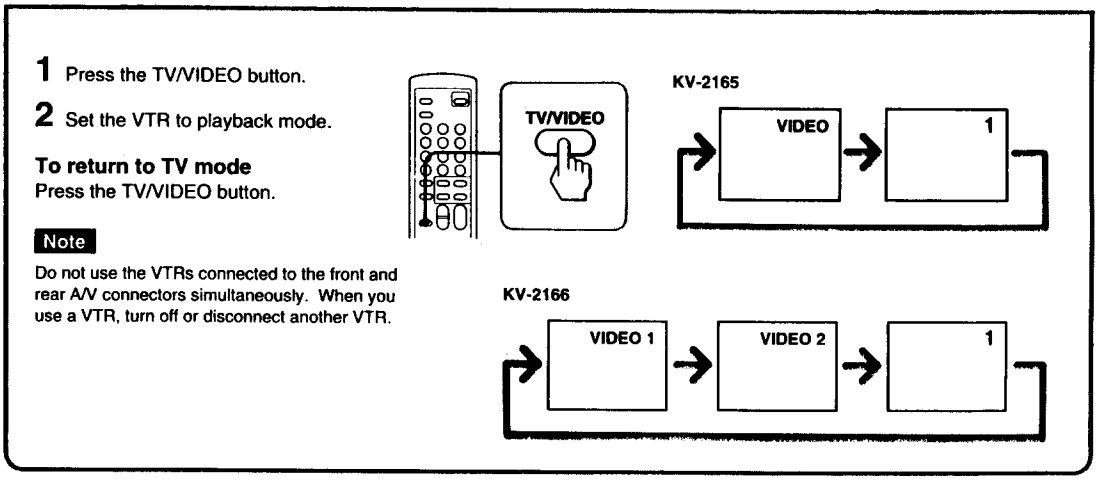
To restore the skipped program position

Preset the station manually as described in "Manual Presetting", or preset automatically again.

1-5. WATCHING THE TV


To switch on or off the TV
POWER
The power of the TV is turned on, or off completely.
To select a channel
To select 8,
To select 10,
To select 25,
or
PROGR
To adjust the volume
VOL
To set the TV to standby mode
MUTE
POWER
DISPLAY
To turn on the TV, press again.
You can operate on the TV using the buttons of the same name.
For personal listening, a headphone can be connected to the Ω jack.

1-6. WATCHING THE VIDEO INPUT

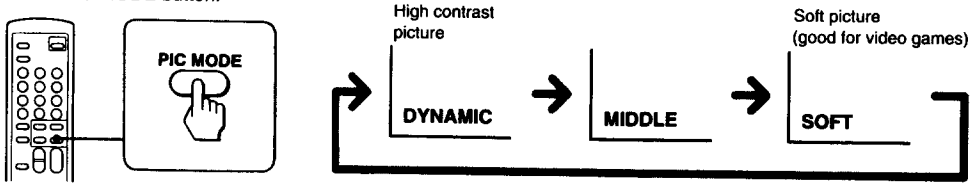

1 Press the TV/VIDEO button.
2 Set the VTR to playback mode.
To return to TV mode
Press the TV/VIDEO button.
Note
Do not use the VTRs connected to the front and rear A/V connectors simultaneously. When you use a VTR, turn off or disconnect another VTR.
TV/VIDEO
KV-2165
VIDEO
1
KV-2166
VIDEO 1
VIDEO 2
1

4

1-7. ADJUSTMENT

Selecting the Picture Mode

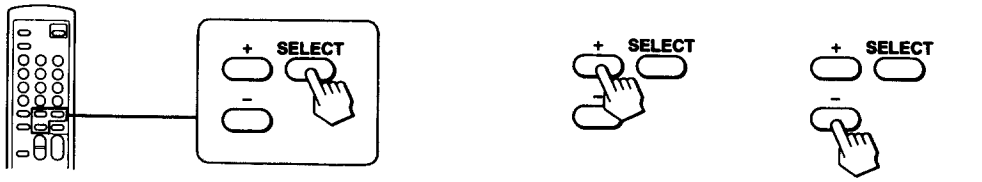
Press the PIC MODE button.

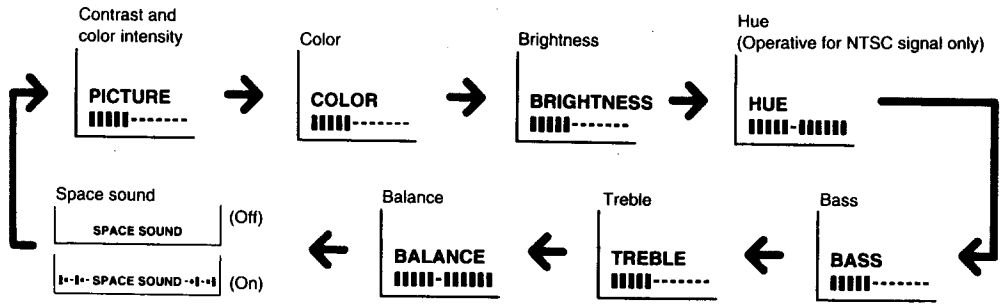


Adjusting the Picture to Your Preference

1 Select the adjustment item using the SELECT button on the Remote Commander (or ANALOG SELECT button on the TV).

2 Adjust using the + and – buttons.

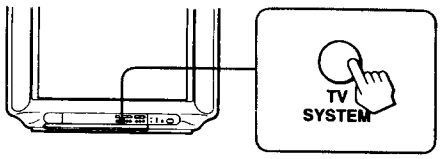




Note

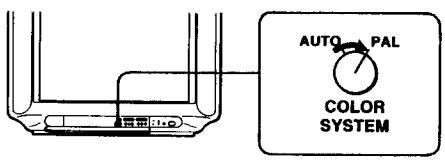
If you change the PIC MODE setting after the above adjustments, the adjustment changes in accordance with the PIC MODE setting.

To set TV SYSTEM (except for KV-2166AS)



If the sound is distorted or noisy, or color is abnormal while receiving program through the VHF/UHF terminal, press TV SYSTEM until a clear sound or normal color is obtained. The TV system set by this operation is memorized for the program position.

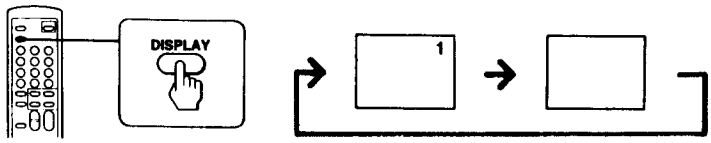
To set COLOR SYSTEM



Normally set COLOR SYSTEM to AUTO.
If the color reproduction is abnormal (for example, the picture turns red or blue) while receiving PAL and PAL60 playback signal, set to PAL. The picture color will become normal.

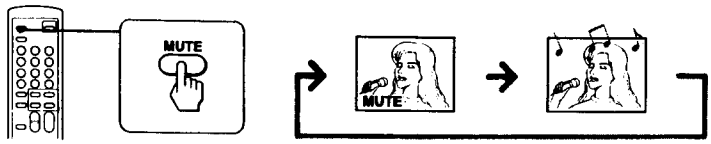
Turning On or Off the On-screen Display

Press the DISPLAY button.



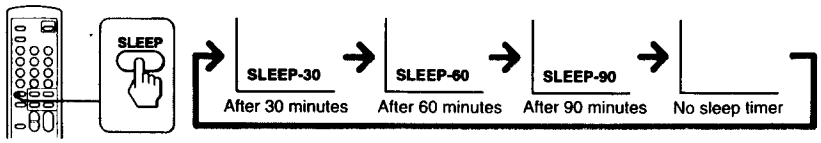
Muting

Press the MUTE button.



Setting the Sleep Timer

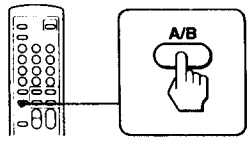
The TV will be turned off after about 30, 60, or 90 minutes. Press the SLEEP button.



To cancel the sleep timer
Press the SLEEP button until the sleep indication disappears.

Selecting the Sound (Stereo or Bilingual) You Want (for KV-2166 only)

Press the A/B/MTS button until you receive the sound you want. The sound changes and the corresponding indicator lights up as shown in the following table.



KV-2166MNT/2166MI — When receiving NICAM system program

Broadcasting	Selected sound
NICAM Stereo	Sound (Indicator) → Stereo (NICAM+A+B) → Regular (NICAM) →
NICAM bilingual	Sound (Indicator) → A (NICAM+A) → B (NICAM+B) → Regular (NICAM) →
NICAM mono	Sound (Indicator) → Mono (NICAM+A) → Regular (NICAM) →

KV-2166MNT/2166AS — When receiving German system program

Broadcasting	Selected sound
German Stereo	Sound (Indicator) Stereo (A+B)
German bilingual	Sound (Indicator) → A (A) → B (B) → A+B (A+B) →

KV-2166P — When receiving MTS system program

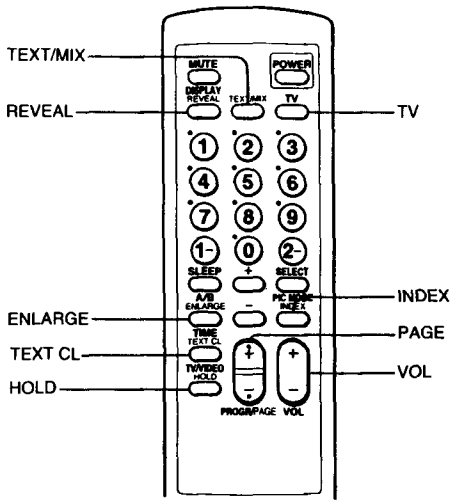
Selected sound
Sound (Indicator) → Main (stereo) (STEREO) → SAP (STEREO+SAP) → Mono (STEREO+MONO) →

Notes

- If the signal is very weak, the sound becomes monaural.
- If the stereo sound is noisy, select "regular" or "mono". The sound becomes monaural, however, the noise will be reduced.

1-8. VIEWING TELETEXT

Buttons used for viewing teletext
Use the buttons indicated in green, the TV button and the VOL button.



Operation

To view the teletext

1 Select the TV channel for the teletext service you want.

2 Press TEXT/MIX.
A teletext page appears.
Once TEXT/MIX has been pressed, you cannot change the TV channel.

3 Key in the three digits (the page number) using the number buttons.
The requested teletext page appears.
If you made a mistake, complete three digits with any number. Then, key in the correct page number.

To return to TV mode, press TV.

To adjust the volume
Use the VOL +/– buttons.
The on-screen display does not appear

Note

You cannot adjust the picture. The SELECT +/– buttons (or ANALOG SELECT +/– on the TV) do not work for the teletext.

To receive the teletext of a different TV channel

1 Press TV to return to TV mode.

2 Select the TV channel you want.

3 Press TEXT/MIX.

To display the index page
Press INDEX.
If no signal is being broadcast, page 100 appears.

To rapidly access the next or preceding page
Press PAGE + or –.

To superimpose the teletext on the TV picture
Press TEXT/MIX twice in TV mode.
To view the teletext only, press TEXT/MIX again.

To prevent a teletext page (subpage) from being updated or changed
Press HOLD. The HOLD symbol appears at the top left corner of the screen.
To resume normal teletext reception, press TEXT/MIX.

To enlarge the teletext display
Press ENLARGE.
Press once to enlarge the upper half; press again to enlarge the lower half; press again to return to the normal display.

To reveal concealed information such as the answer to a quiz
Press REVEAL.
Press again to conceal the answers.

To watch the TV program while waiting for a requested page to be displayed

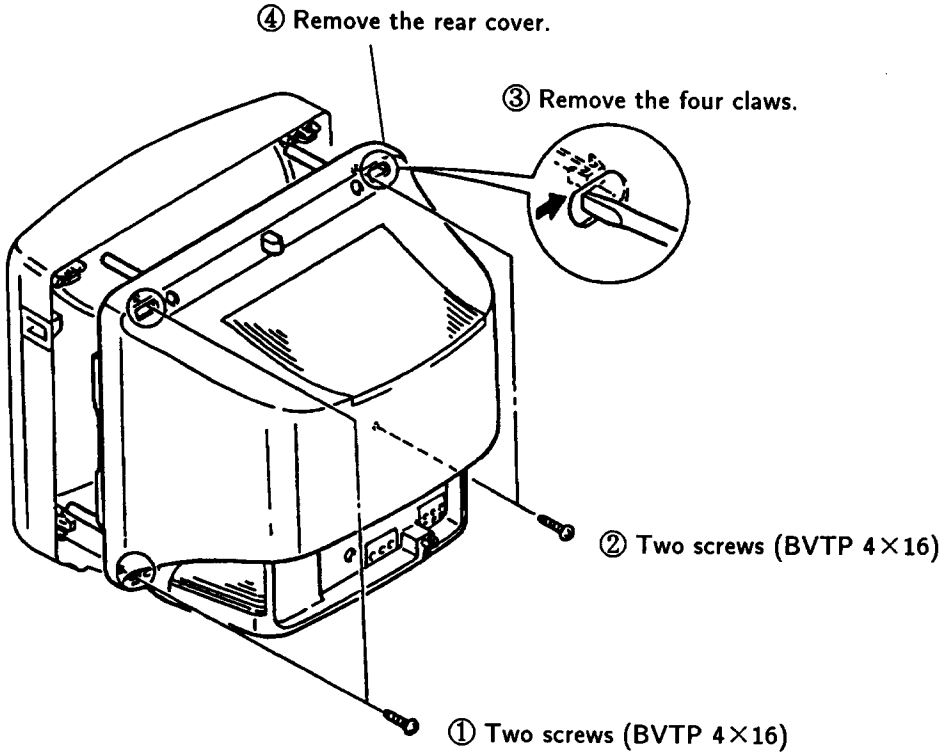
1 Key in the page you want.

2 Press TEXT CL.
The TV program appears.
When the requested page has been captured, the page number appears at the top left corner.

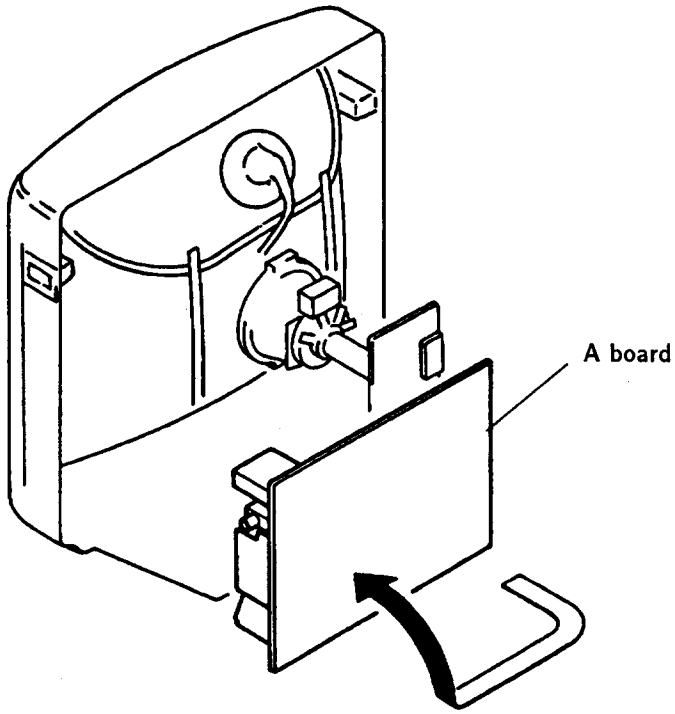
3 To view the page, press TEXT/MIX.

SECTION 2
DISASSEMBLY

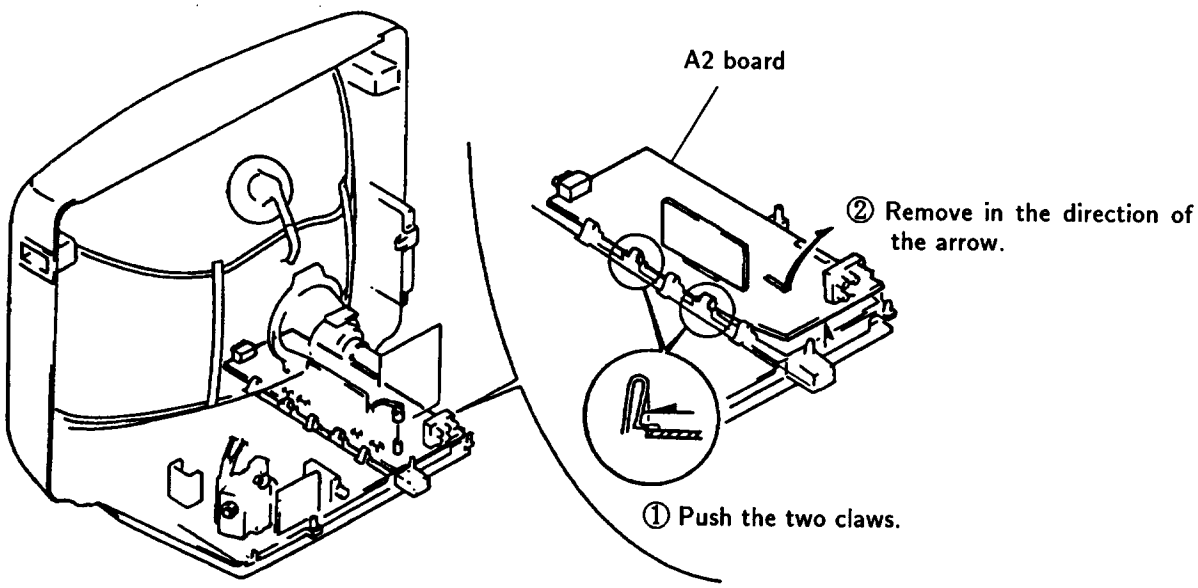
2-1. REAR COVER REMOVAL



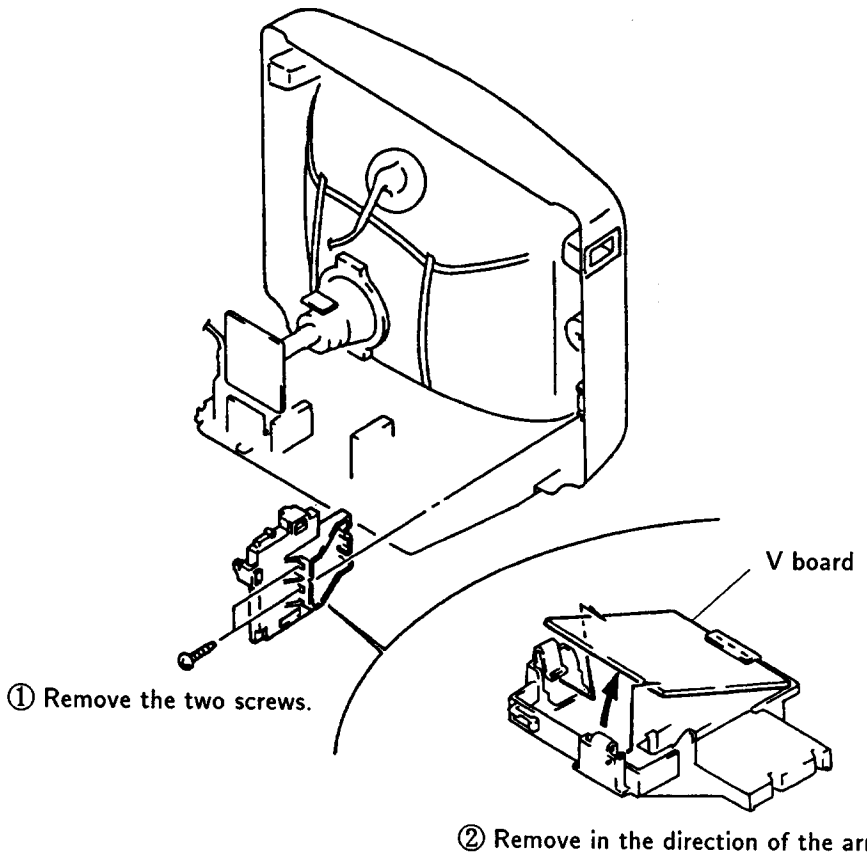
2-2. SERVICE POSITION



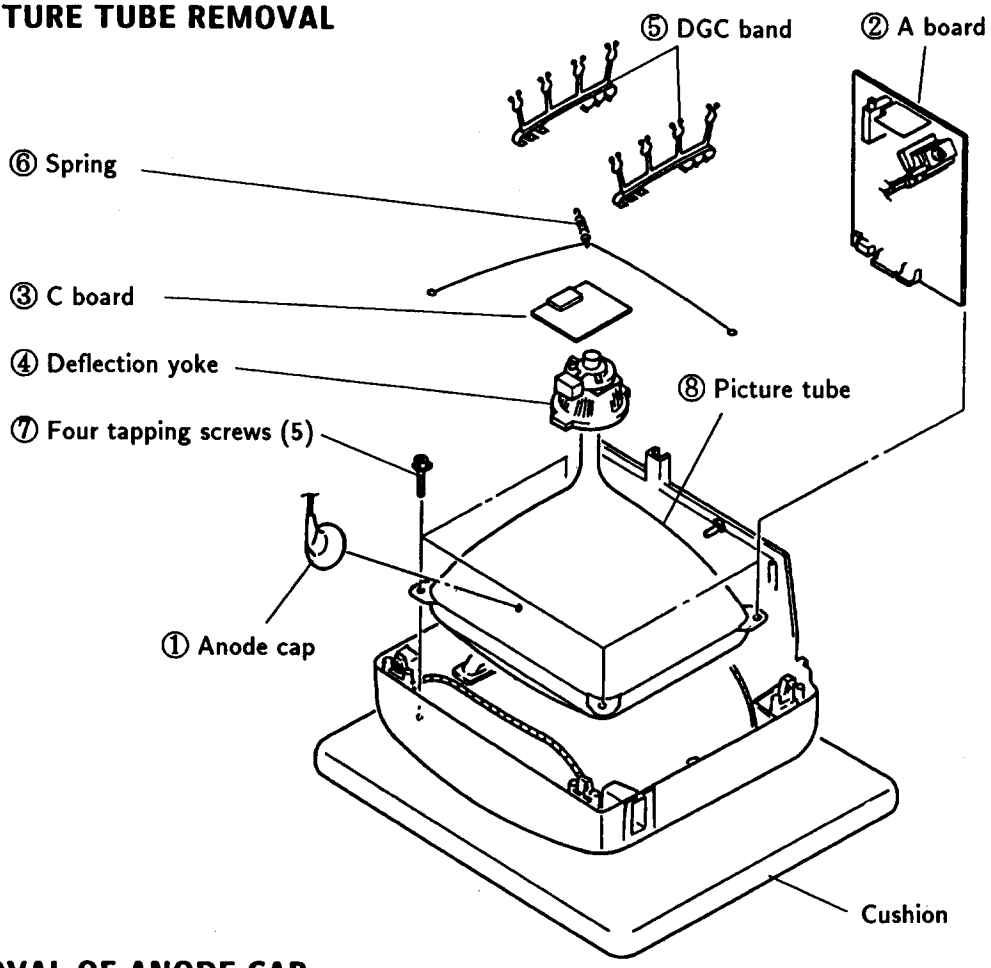
2-3. A2 BOARD REMOVAL



2-4. V BOARD REMOVAL



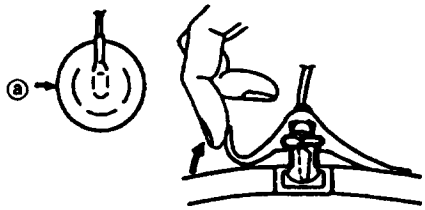
2-5. PICTURE TUBE REMOVAL



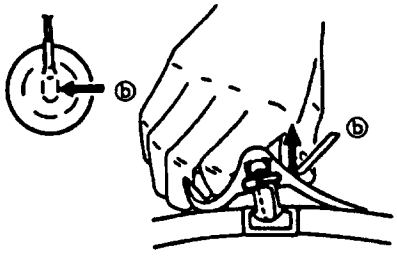
• REMOVAL OF ANODE-CAP

NOTE : Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT chield or carbon painted on the CRT, after removing the anode.

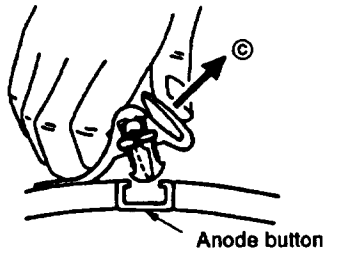
• REMOVING PROCEDURES



① Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ.



② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ.



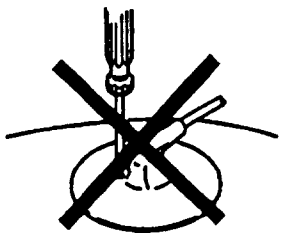
③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ⓒ.

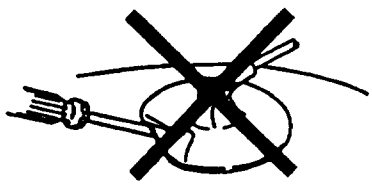
• HOW TO HANDLE AN ANODE-CAP

① Don't hurt the surface of anode-caps with sharp shaped material!

② Don't press the rubber hardly not to hurt inside of anode-caps!
A material fitting called as shatter-hook terminal is built in the rubber.

③ Don't turn the foot of rubber over hardly!
The shatter-hook terminal will stick out or hurt the rubber.





SECTION 3
SET-UP ADJUSTMENTS

● The following adjustments should be made when a complete realignment is required or a new picture tube is installed.

● These adjustments should be performed with rated power supply voltage unless otherwise noted.

The controls and switch should be set as follows unless otherwise noted :

PICTURE control ..... normal

BRIGHTNESS control ..... normal

Perform the adjustments in order as follows:

1. Beam Landing
2. Convergence
3. Focus
4. Screen (G 2) and White Balance

Note: Test Equipment Required.

1. Color bar Pattern Generator
2. Degausser
3. DC Power Supply
4. Digital multimeter

Preparation:

● Feed in the white pattern signal.

● Before starting, degauss the entire screen.

3-1. BEAM LANDING

1. Input a raster signal with the pattern generator.
2. Loosen the deflection yoke mounting screw, and set the purity control to the center as shown in Fig.2
3. Turn the raster signal of the pattern generator to green.
4. Move the deflection yoke backward, and adjust with the purity control so that green is in the center and red and blue are at the sides evenly. (Fig.3)
5. Move the deflection yoke forward, and adjust so that the entire screen becomes green. (Fig.1)
6. Switch over the raster signal to red and blue and confirm the condition.
7. When the position of the deflection yoke is determined, tighten it with the deflection yoke mounting screw.
8. When landing at the corner is not right, adjust by using the disk magnets. (Fig.4)

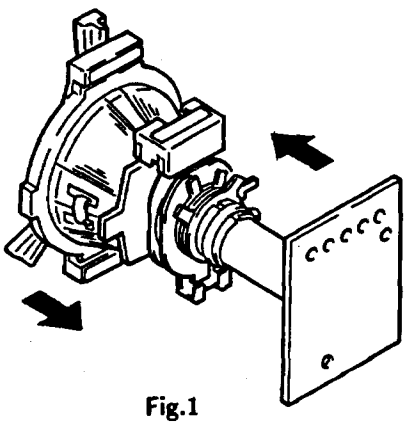


Fig.1

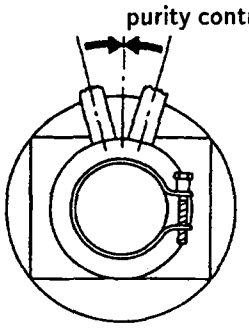


Fig.2

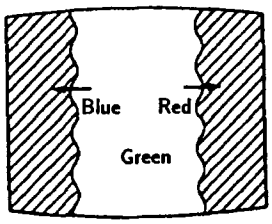


Fig.3

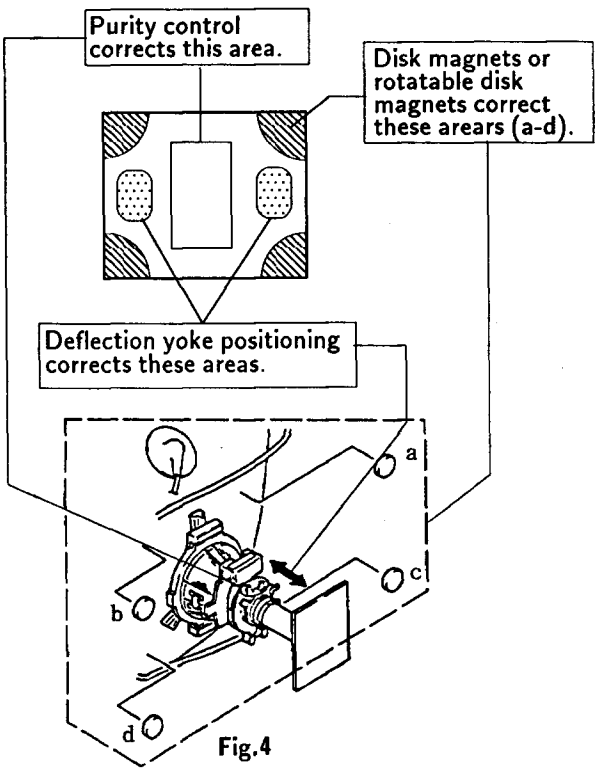


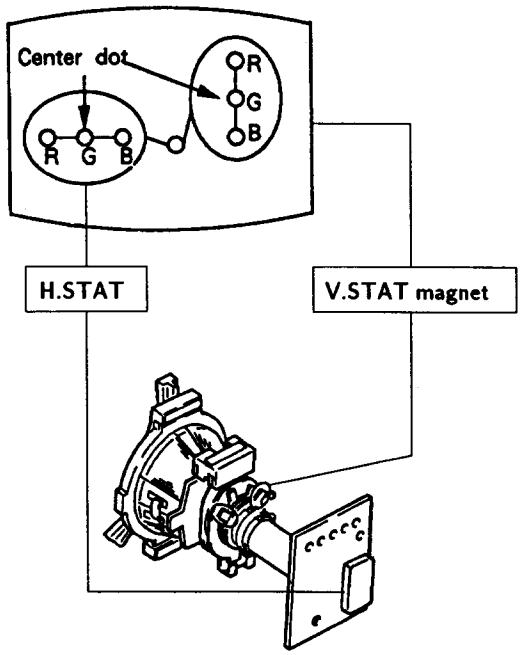
Fig.4

3-2. CONVERGENCE

Preparation:

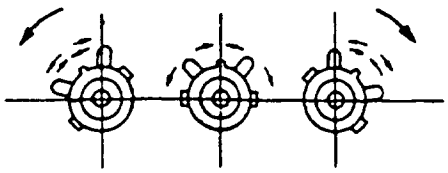
- Before starting, perform FOCUS, H.SIZE, V.LIN and V.SIZE adjustments.
- Set BRIGHTNESS control to minimum.
- Feed in dot pattern.

(1) Horizontal and Vertical Static Convergence

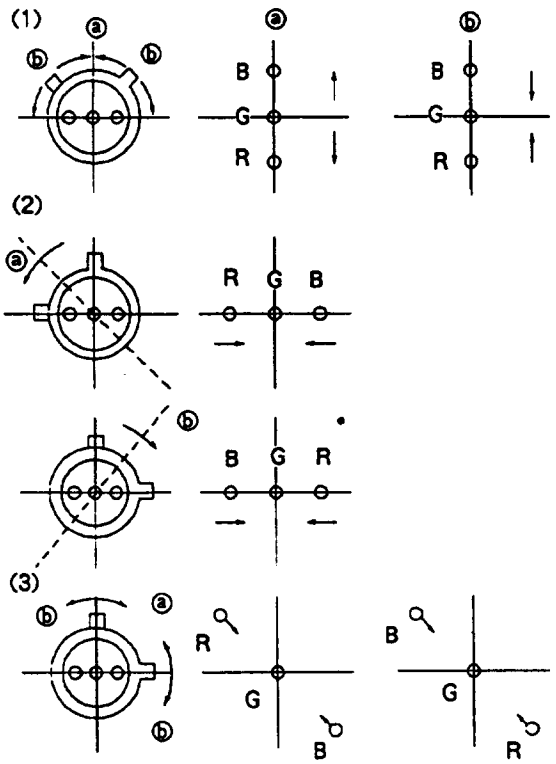


1. Adjust H.STAT VR to converge red, green and blue dots the in center of the screen.(Horizontal movement)
2. Adjust V. STAT magnet to converge red, green and blue dots in the center of the screen. (Vertical movement)
3. If the red, green and blue dots do not converge on the center of screen with H.STAT VR, perform horizon-tal convergence adjustment using H.STAT VR and V.STAT magnet as shown below. (In this case, H.STAT VR and V.STAT magnet effect each other.)

- Tilt the V.STAT magnet and adjust static convergence to open or close the V.STAT magnet.



4.When the V.STAT magnet is moved in the direction of arrow ⓐ and ⓑ, red, green and blue dots move as shown below.

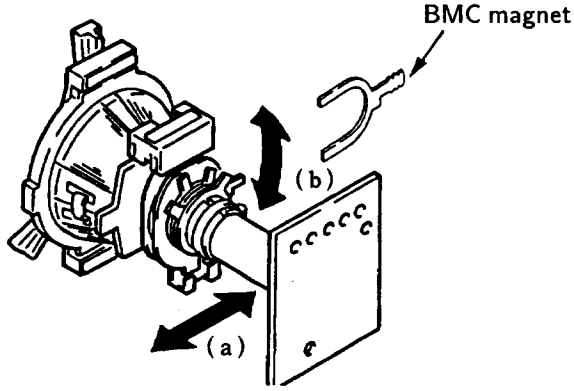


If the blue dot does not converge with red and green dots, perform following steps.

Move BMC magnet (a) to correct insufficient H.static convergence.

Rotate BMC magnet (b) to correct insufficient V.static convergence.

In either case, repeat Beam Landing Adjustment.

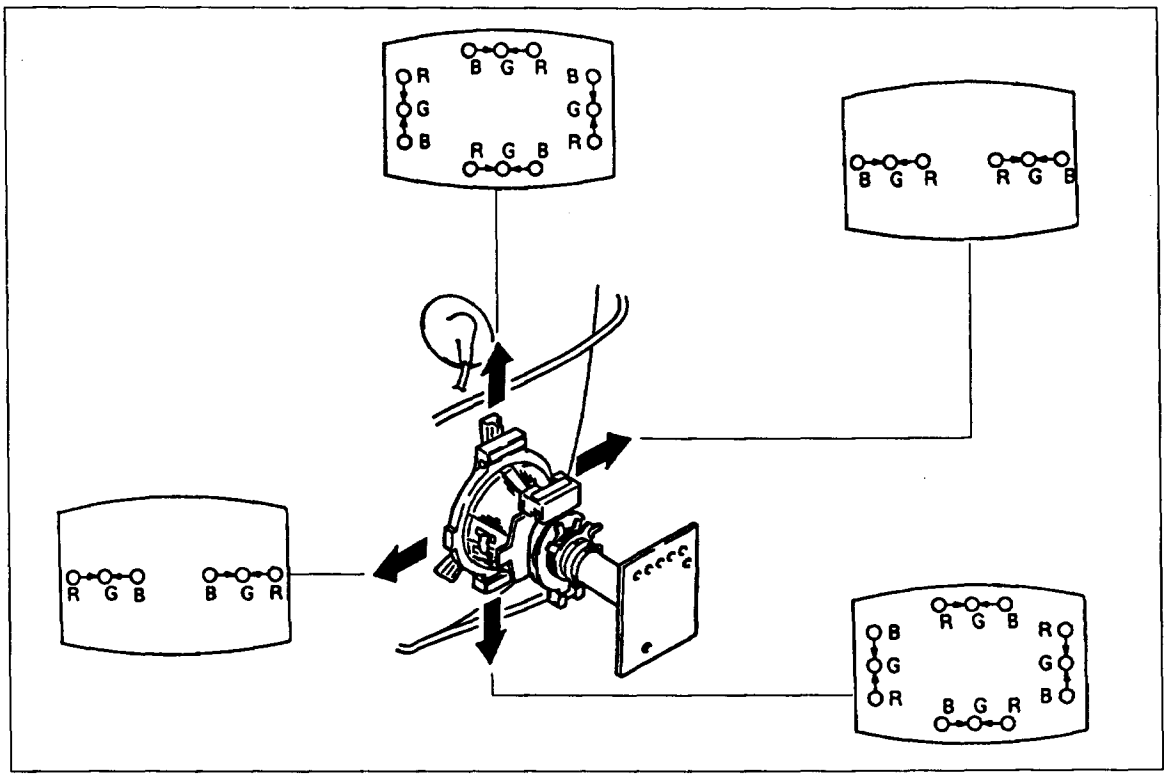


(2)Dynamic Convergence Adjustment

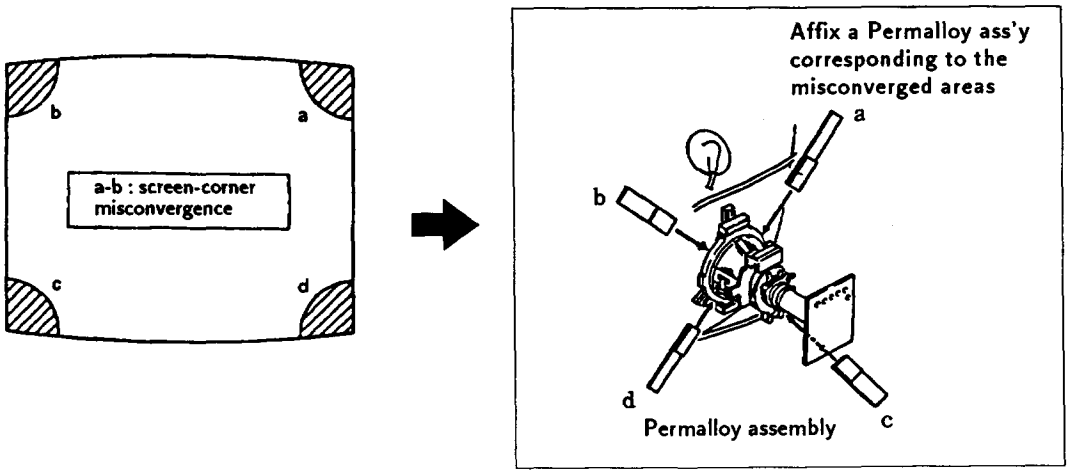
Preparation:

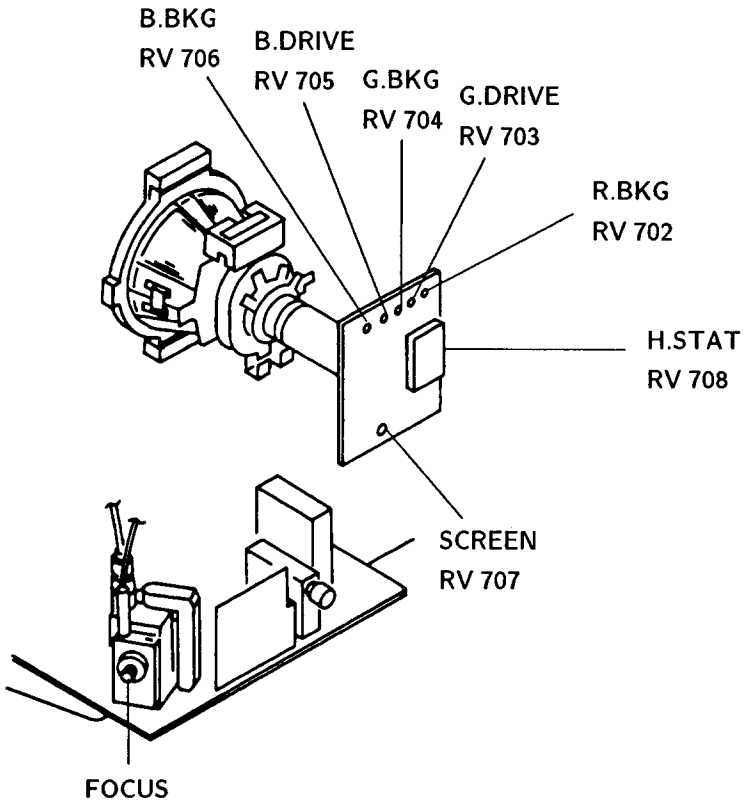
● Before starting perform Horizontal and Vertical static convergence Adjustment.

1. Slightly loosen deflection yoke screw.
2. Remove deflection yoke spacers.
3. Move the deflection yoke for best convergence as shown below.
4. Tighten the deflection yoke screw.
5. Install the deflection yoke spacers.



(3) Screen-corner Convergence





3-3. FOCUS

Adjust FOCUS control for best picture.

3-4. SCREEN(G 2) and WHITE BALANCE

[SCREEN(G2)]

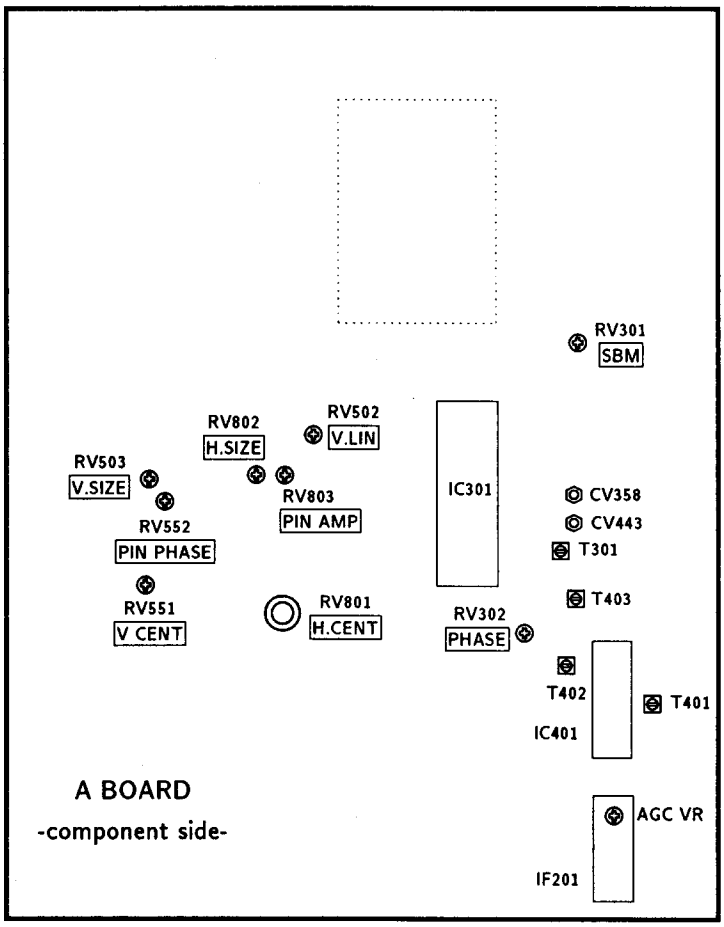
1. Input a dots pattarn.
2. Set the PIC, BRT controls at minimum and COLOR control at 50%.
3. Confirm the BKG voltage is less than 165 Vdc when turning RV 706 (B.BKG), RV 704 (G.BKG) and RV 702 (R.BKG).
4. Note the color when becomes visible first when turning RV707 (SCREEN).

[WHITE BALANCE]

1. Input a all white signl.
2. Set the PIC control to minimum and set the BRT control at normal.
3. Turn RV 703 (G.DRIVE) and RV 705 (B.DRIVE) fully clockwise.
4. Adjust BKG controls for best white balance.
5. Set the PICTURE control to maximum. Observe the screen and adjust the DRIVE controls for best white balance.
6. Repeat steps 4 and 5.

SECTION 4
CIRCUIT ADJUSTMENTS

4-1. A BOARD ADJUSTMENTS



RF AGC ADJUSTMENT (IF201)

1. Receive a strong off-air signals.
2. Adjust RF AGC VR control so that snow noise and cross-modulation just disappear from the picture.

A • P • C ADJUSTMENT (CV443)..... (PAL)

1. Short circuit between pin ④ and pin ㊼ of IC301 with jumper.
2. Input the PAL color-bar signal.
3. Set the PIC, COL, and BRT controls to normal.
4. Adjust CV443 for suitable color intensity.
5. Remove a jumper.

A • P • C ADJUSTMENT (CV358)..... (NTSC)

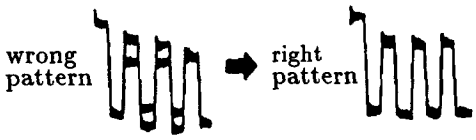
1. Short circuit between pin ④ and pin ㊼ of IC301 with a jumper.
2. Input NTSC 3.58 color-bar signal.
3. Set the PIC, COL and BRT controls to normal.
4. Adjust CV358 for suitable color intensity.
5. Remove the jumper.

ANTI PAL, LINE CRAWLING ADJUSTMENT (RV301,RV302,T301)

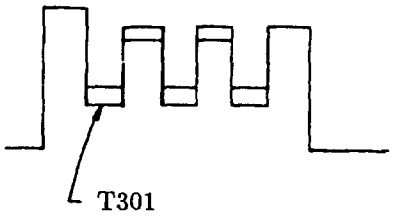
• ANTI PAL ADJUSTMENT

1. Input the PAL color-bar signal.
2. Set the PIC,COL and BRT controls to normal.
3. Connect the oscilloscope to pin ③ of A-1 connector.
4. Adjust RV301 (DELAY) and RV302(PHASE) to obtain the waveform as shown below.

• LINE CRAWLING ADJUSTMENT

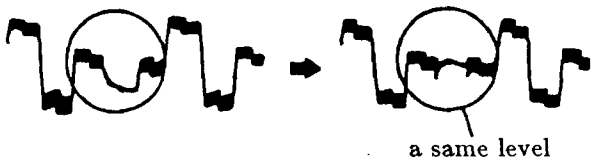


1. Input the PAL color-bar signal.
2. Set the PIC,COL and BRT controls to normal.
3. Connect the oscilloscope to pin ③ of A-1 connector.
4. Adjust T301 for minimum line crawling.



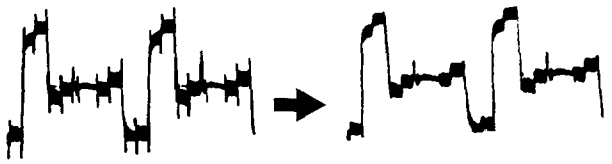
DISCRI ADJUSTMENT (T401,T402)

1. Input the SECAM color-bar signal.
2. Connect the dual-trace oscilloscope to the pin ⑪ (B-Y) and pin ⑩ (R-Y) of IC401.
3. Adjust T402 (R-Y) and T401 (B-Y) as shown the following figure.

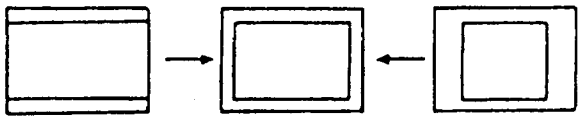


BELL FILTER ADJUSTMENT (T403)

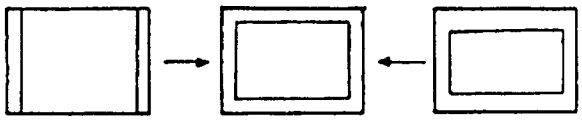
1. Input the SECAM color-bar signal.
2. Connect the oscilloscope to pin ⑩ (R-Y) of IC 401.
3. Adjust T403 as shown the following figure.



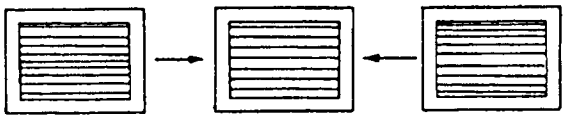
RV802 H.SIZE (HORIZONTAL SIZE)



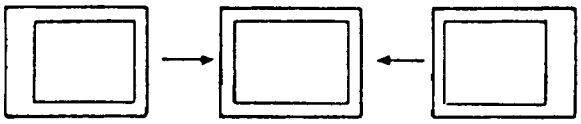
RV503 V.SIZE (VERTICAL SIZE)



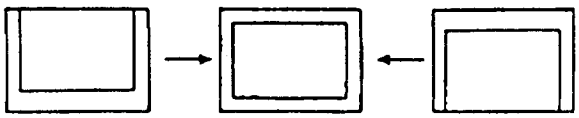
RV502 V.LIN (VERTICAL LINEARITY)



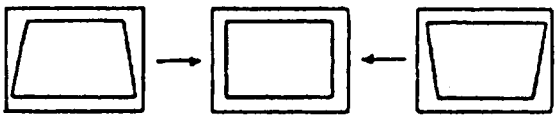
RV801 H.CENT (HORIZONTAL CENTER)



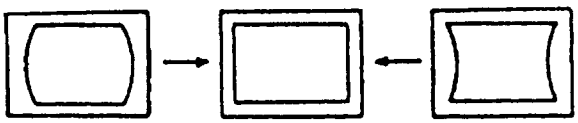
RV551 V.CENT (VERTICAL CENTER)



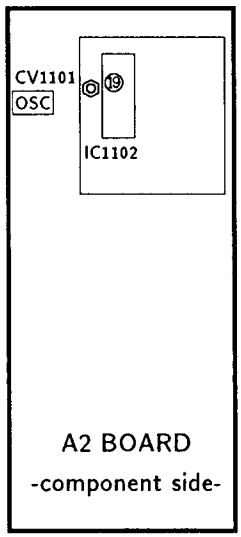
RV552 PIN PHASE (PINCUSHION PHASE)



RV803 PIN AMP (PINCUSHION AMPLIFIER)



4-2. A2 BOARD ADJUSTMENT



REF OCS ADJUSTMENT (CV1101)

1. Disconnect CN1201 connector.
2. Connect the oscilloscope to the pin ⑲ of IC1102.
3. Adjust CV1101 to 728.020KHz±5Hz
4. Connect CN1201 connector.

5-2. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytic and tantalums.
- All resistors are in ohms.
  kΩ =1000Ω , MΩ =1000kΩ
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch: 5 mm
Rating electrical power ¼ W

- : nonflammable resistor.
- △ : internal component.
- : panel designation, or adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- : earth-chassis.

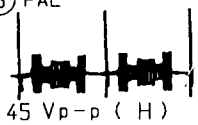
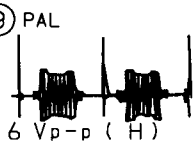
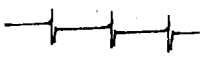
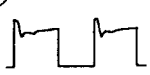
Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Reference information

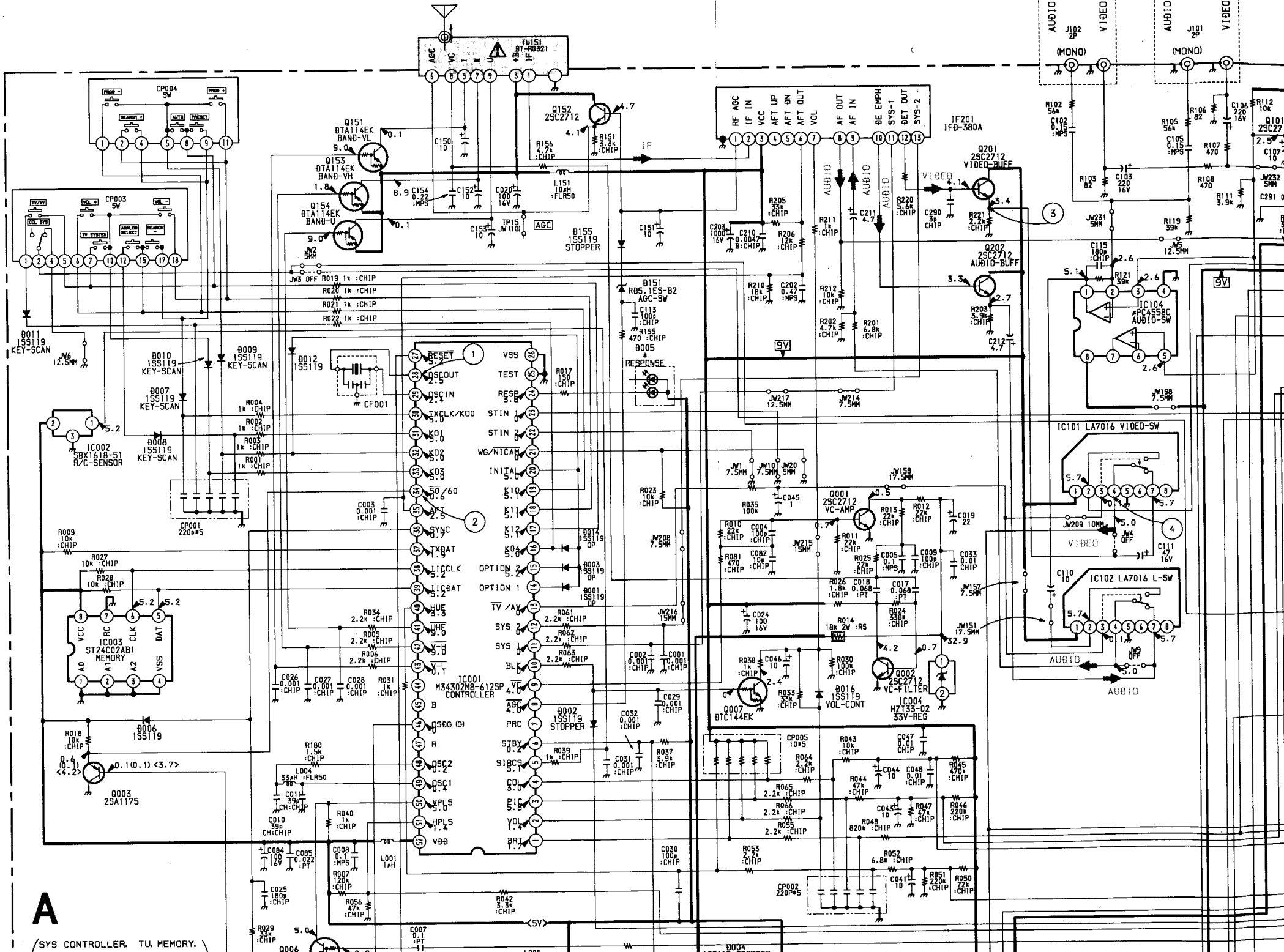
RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: RW	NONFLAMMABLE WIREWOUND
	: ※	ADJUSTMENT RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

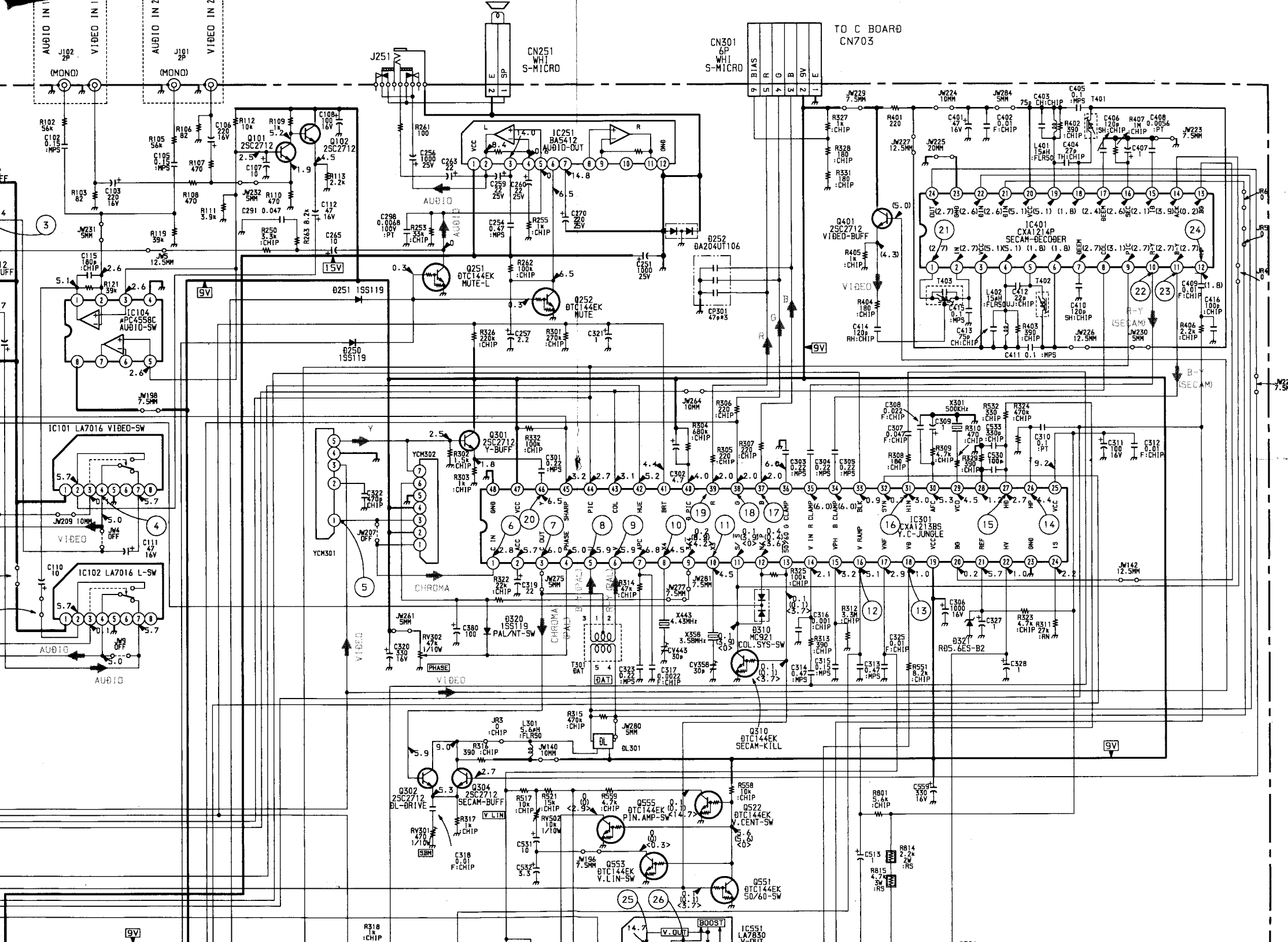
- Readings are taken with a color-bar signal input.
  no mark : with PAL color-bar signal received.
  ( ) : with SECAM color-bar signal received.
  〈 〉 : with NTSC3.58 color-bar signal received.
- Readings are taken with a 10MΩ digital multimeter.
- Voltage are dc with respect to ground unless otherwise noted.
- Voltage variations may be noted due to normal production tolerances.
- All voltages are in V.
- Circled numbers are waveform references.
- : B+ bus.
- : signal path. (RF)

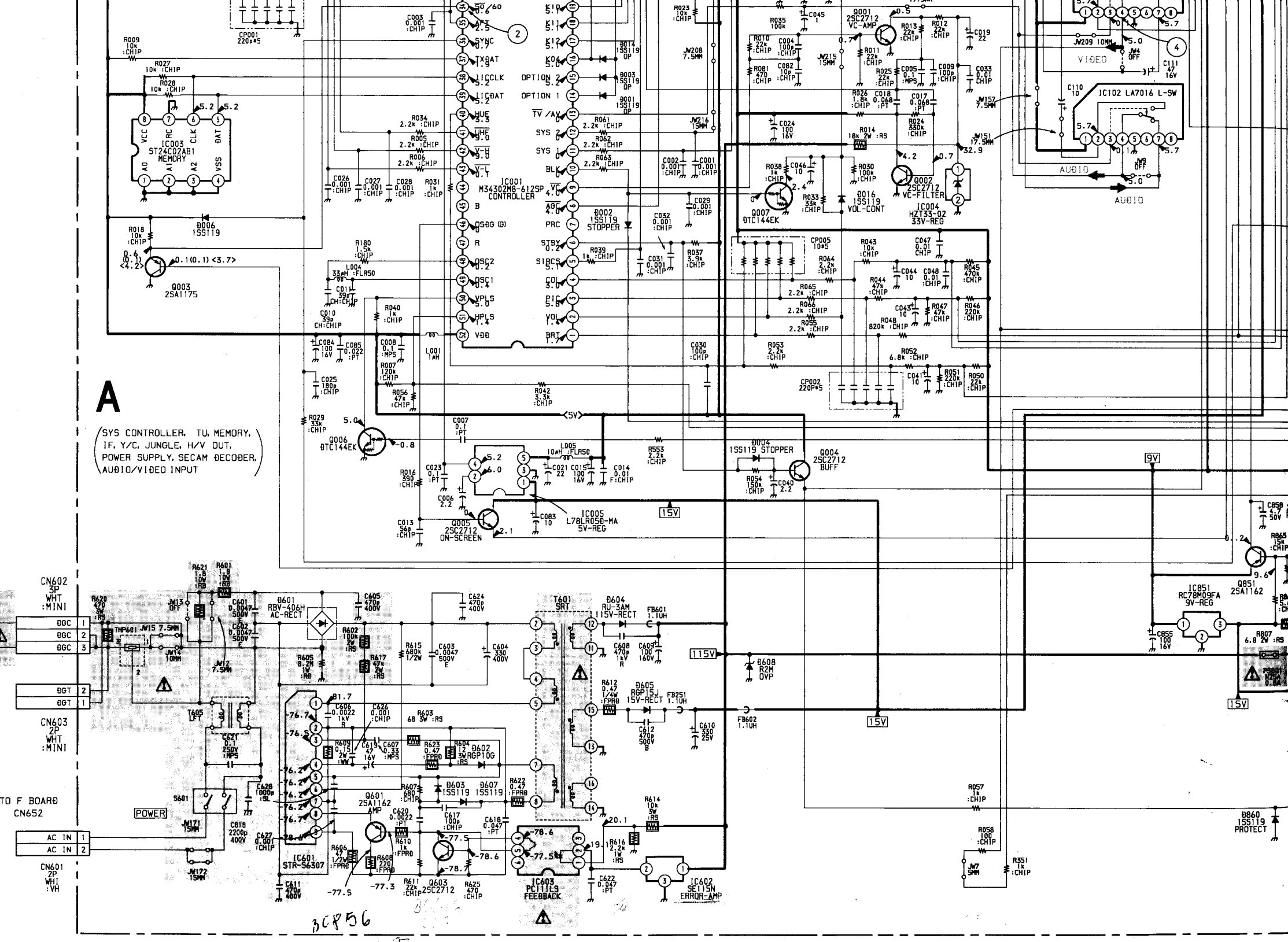
• A BOARD WAVEFORMS

① 6.0Vp-p (4.0MHz)	② 0.6Vp-p (H)	③ 1.9Vp-p (H)
④ 1.9Vp-p (H)	⑤ PAL. NTSC 0.5 Vp-p (H)	⑥ PAL. NTSC 0.5 Vp-p (H)
⑦ PAL 0.3Vp-p (H)	⑧ PAL  0.45 Vp-p (H)	⑨ PAL  0.6 Vp-p (H)
⑩ 0.26 Vp-p(4.43MHz)	⑪ 0.16Vp-p(3.58MHz)	⑫ 1.5Vp-p (H)
⑬ 2.4Vp-p (V)	⑭ 4.0Vp-p (H)	⑮ 2.0Vp-p (H)
⑯ 1.8Vp-p (H)	⑰ 4.0Vp-p (H)	⑱ 4.0Vp-p (H)
⑲ 4.0Vp-p (H)	⑳ 0.9Vp-p (H)	㉑ SECAM 0.24Vp-p (H)
㉒ SECAM 1.0Vp-p (H)	㉓ SECAM 1.4 Vp-p (H)	㉔ SECAM 3.3 Vp-p (H)
㉕ 50 Vp-p (V)	㉖  1.5 Vp-p (V)	㉗ 900 Vp-p (H)
㉘  170 Vp-p (H)	㉙ 10 Vp-p (V)	

B-SS4187 < ME. > - A < WAVE LIST > - 1


A
/SYS CONTROLLER. TU. MEMORY. \
IC001 M34302M8-612SP CONTROLLER
IC002 SBX1618-51 R/C-SENSOR
IC003 ST24C02AB1 MEMORY
IC101 LA7016 VIDEO-SW
IC102 LA7016 L-SW
IC104 μPC4558C AUDIO-SW
IC004 HZ33-02 33V-REG
IF201 IF0-380A
TU151 BT-R0321
Q151 DTA114EK BAND-VL
Q152 2SC2712
Q153 DTA114EK BAND-VH
Q154 DTA114EK BAND-U
Q201 2SC2712 VIDEO-BUFF
Q202 2SC2712 AUDIO-BUFF
Q001 2SC2712 VC-AMP
Q002 2SC2712 VC-FILTER
Q003 2SA1175
Q007 DTC144EK
D151 RD5.1ES-B2 AGC-SW
D155 1SS119 STOPPER
D005 * RESPONSE
D016 1SS119 VOL-CONT
CP001 220P*5
CP002 220P*5
CP003 SW
CP004 SW
CP005 10*5
CF001
AUDIO IN 1
VIDEO IN 1
AUDIO IN 2
VIDEO IN 2
(MONO)
9V
5V
AGC
IF
VIDEO
AUDIO


AUDIO IN 1
VIDEO IN 1
AUDIO IN 2
VIDEO IN 2
J102 2P
J101 2P
(MONO)
J251
CN251 WHI S-MICRO
CN301 6P WHI S-MICRO
TO C BOARD CN703
IC251 BA5412 AUDIO-OUT
IC401 CXA1214P SECAM-DECODER
IC104 #PC4558C AUDIO-SW
IC101 LA7016 VIDEO-SW
IC102 LA7016 L-SW
IC301 CXA1213BS Y.C-JUNGLE
IC551 LA7830 V-OUT
Q101 2SC2712
Q102 2SC2712
Q251 DTC144EK MUTE-L
Q252 DTC144EK MUTE
Q301 2SC2712 Y-BUFF
Q302 2SC2712 DL-DRIVE
Q304 2SC2712 SECAM-BUFF
Q310 DTC144EK SECAM-KILL
Q401 2SC2712 VIDEO-BUFF
Q522 DTC144EK V.CENT-SW
Q551 DTC144EK 50/60-SW
Q553 DTC144EK V.LIN-SW
Q555 DTC144EK PIN.AMP-SW
D252 DA204UT106
D250 1SS119
D251 1SS119
D310 MC921 COL.SYS-SW
D320 1SS119 PAL/NT-SW
D327 RD5.6ES-B2
D330 DL301
CP301 47p*3
T301 DAT
T401
T402
T403
YCM301
YCM302
X301 500KHz
X358 3.58MHz
X443 4.43MHz
CY358 30p
CY443 30p
RV301 470 1/10W
RV302 47k 1/10W
RV502 10k 1/10W
L301 5.6uH FLR50
L401 15uH FLR50
L402 15uH FLR50UJ
9V
15V
VIDEO
AUDIO
CHROMA
PHASE
SBM
V.OUT
BOOST
V LIN
R-Y (SECAM)
B-Y (SECAM)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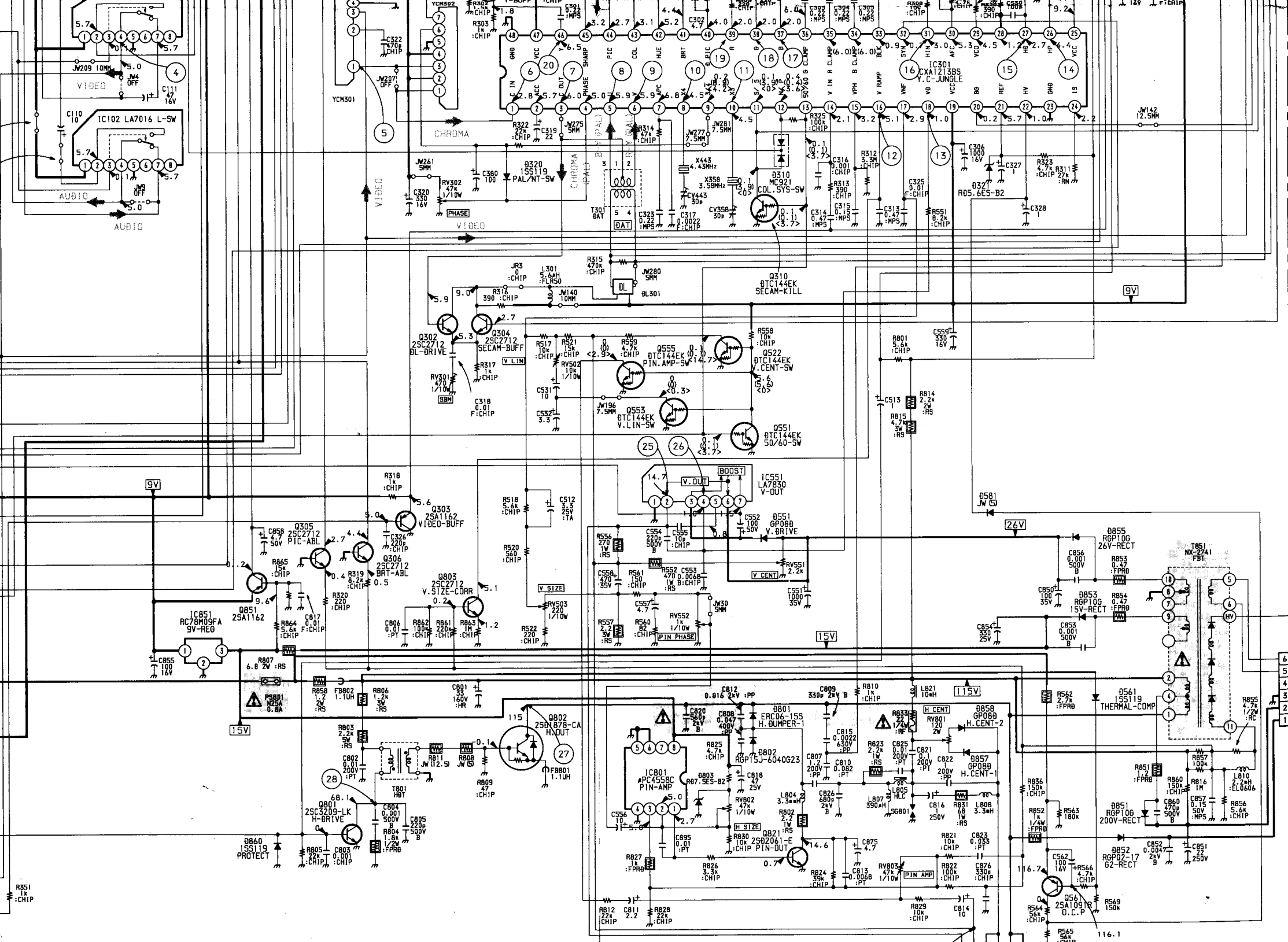
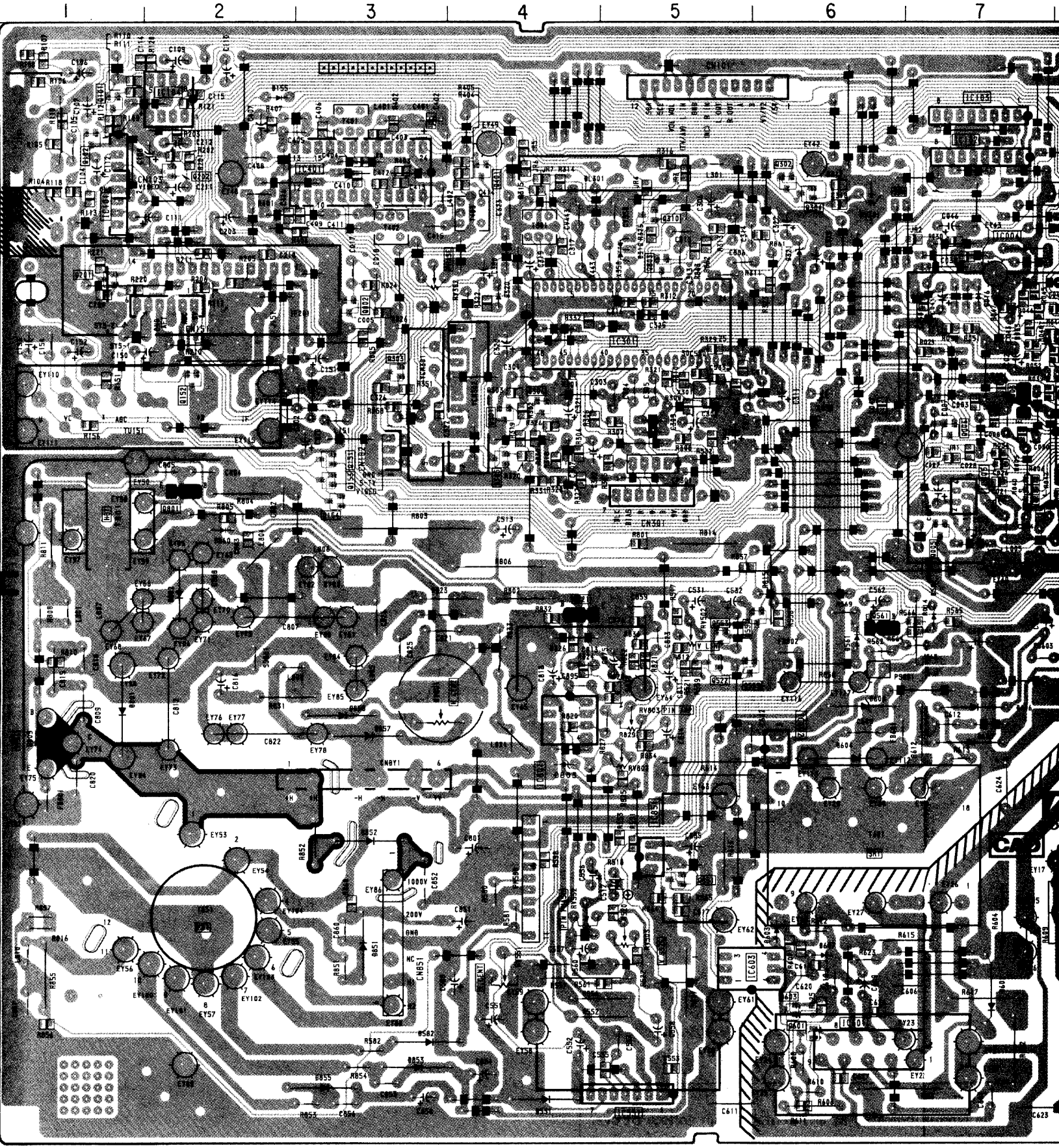
(SYS CONTROLLER, TU, MEMORY, IF, Y/C, JUNGLE, H/V OUT, POWER SUPPLY, SECAM DECODER, AUDIO/VIDEO INPUT)
IC001 M34302M8-612SP CONTROLLER
IC003 ST24C02AB1 MEMORY
IC004 HZT33-02 33V-REG
IC005 L78LR050-MA 5V-REG
IC102 LA7016 L-SW
IC601 STR-S6307
IC602 SE115N ERROR-AMP
IC603 PC111LS FEEDBACK
IC851 RC78M09FA 9V-REG
Q001 2SC2712 VC-AMP
Q002 2SC2712 VC-FILTER
Q003 2SA1175
Q004 2SC2712 BUFF
Q005 2SC2712 ON-SCREEN
Q006 DTC144EK
Q007 DTC144EK
Q601 2SA1162 AMP
Q603 2SC2712
Q851 2SA1162
D001 1SS119 PROTECT
D002 1SS119 STOPPER
D003 1SS119 OP
D004 1SS119 STOPPER
D005 RGP15J 15V-RECT
D006 1SS119
D007 1SS119
D008 R2M OVP
D009 1SS119 VOL-CONT
D601 RBV-406H AC-RECT
D602 RGP10G
D603 1SS119
D604 RU-3AM 115V-RECT
D607 1SS119
D860 1SS119 PROTECT
T601 SRT
T405 LFT
S601 POWER
CN602 3P WHT :MINI
CN603 2P WHT :MINI
CN601 2P WHI :VH
TO F BOARD CN652
VIDEO
AUDIO
5V
9V
15V
115V
-15V
-77.5
-77.3
-78.7
-78.6
-76.7
-76.5
-76.2
-76.1
-76.0
81.7
20.1
19.1
9.6
5.7
5.2
5.0
4.2
3.7
2.4
2.1
0.8
0.7
0.5
0.4
0.2
0.1
3CR56

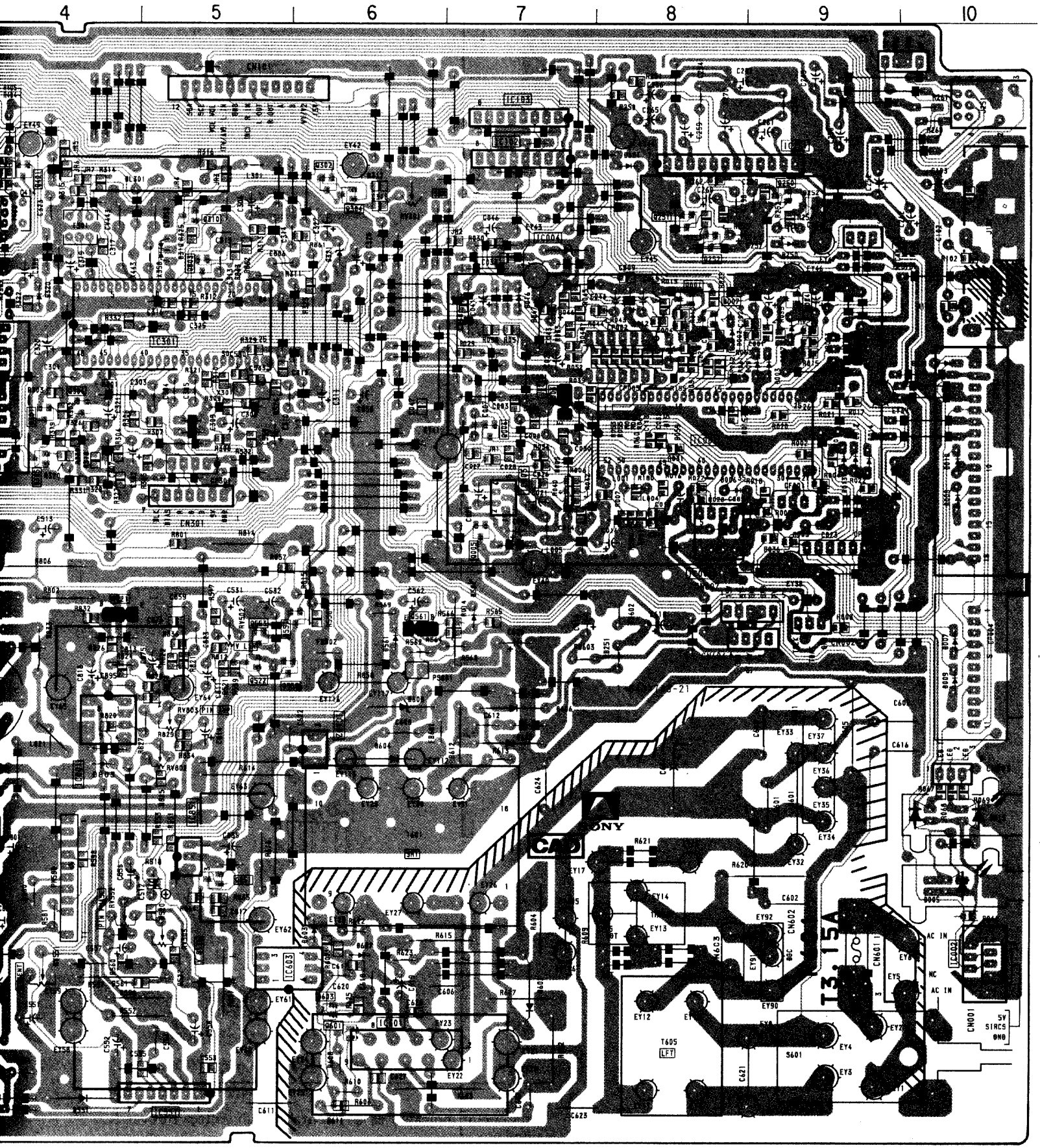

IC301
CXA1213BS
Y.C-JUNGLE
IC102 LA7016 L-SW
AUDIO
VIDEO
CHROMA
IC551
LA7830
V-OUT
IC851
RC78M09FA
9V-REG
IC801
APC4558C
PIN-AMP
Q310
DTC144EK
SECAM-KILL
Q522
DTC144EK
V.CENT-SW
Q551
DTC144EK
50/60-SW
Q553
DTC144EK
V.LIN-SW
Q555
DTC144EK
PIN.AMP-SW
Q303
2SA1162
VIDEO-BUFF
Q305
2SC2712
PIC-ABL
Q306
2SC2712
BRT-ABL
Q803
2SC2712
V.SIZE-CORR
Q851
2SA1162
Q802
2SD1878-CA
H.OUT
Q801
2SC3209-LK
H-DRIVE
Q821
2SD2061-E
PIN-OUT
Q56
2SA1091
O.C.P
Q302
2SC2712
DL-DRIVE
Q304
2SC2712
SECAM-BUFF
D310
MC921
COL.SYS-SW
D320
1SS119
PAL/NT-SW
D855
RGP10G
26V-RECT
D853
RGP10G
15V-RECT
D851
RGP10G
200V-RECT
D852
RGP02-17
G2-RECT
D561
1SS119
THERMAL-COMP
D860
1SS119
PROTECT
D801
ERC06-15S
H.BUMPER-1
D802
RGP15J-6040G23
D858
GP08Q
H.CENT-2
D857
GP08Q
H.CENT-1
D551
GP08Q
V.DRIVE
D581
JW(G)
T851
NX-2741
FBT
T801
HOT
T301
BAT
L301
5.6uH
:FLR50
L821
10uH
L810
2.2mH
:EL0606
L804
3.3mH
L805
HLC
L808
3.3mH
L807
390uH
SG801
X443
4.43MHz
X358
3.58MHz
CV443
30p
CV358
30p
F801
N25A
0.8A
F802
1.1UH
F803
1.1UH
JW142
12.5MM
JW209
10MM
JW140
10MM
JW261
5MM
JW275
5MM
JW277
7.5MM
JW281
7.5MM
JW280
5MM
JW30
5MM
JW196
7.5MM
JW4
OFF
JW5
OFF
JW207
OFF
9V
15V
26V
115V
116.7
116.1
V.OUT
BOOST
V.CENT
V.SIZE
PIN PHASE
PIN AMP
H.CENT
H.SIZE
V.LIN
SBM
PHASE
DAT
DL
YCM301
YCM302

A Board –

A SYS CONTROLLER, TU, MEMORY, IF, Y/C, JUNGLE, H/V OUT, POWER SUPPLY, SECAM DECODER, AUDIO/VIDEO INPUT

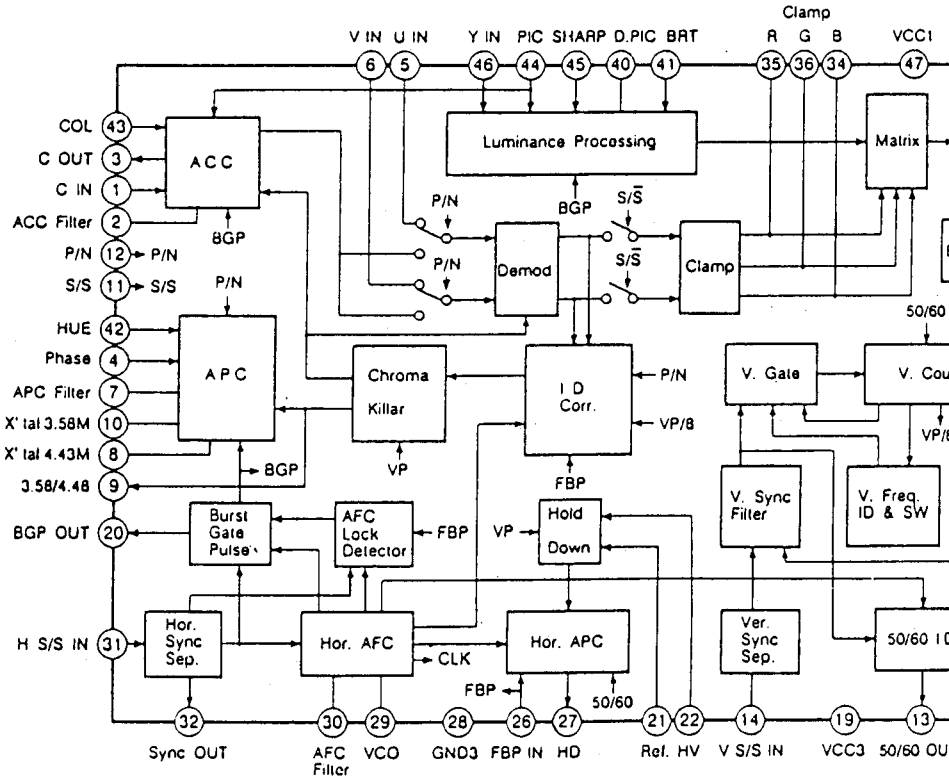


A [SYS CONTROLLER, TU, MEMORY, IF, Y/C, JUNGLE, H/V OUT, POWER SUPPLY, SECAM DECODER, AUDIO/VIDEO INPUT]

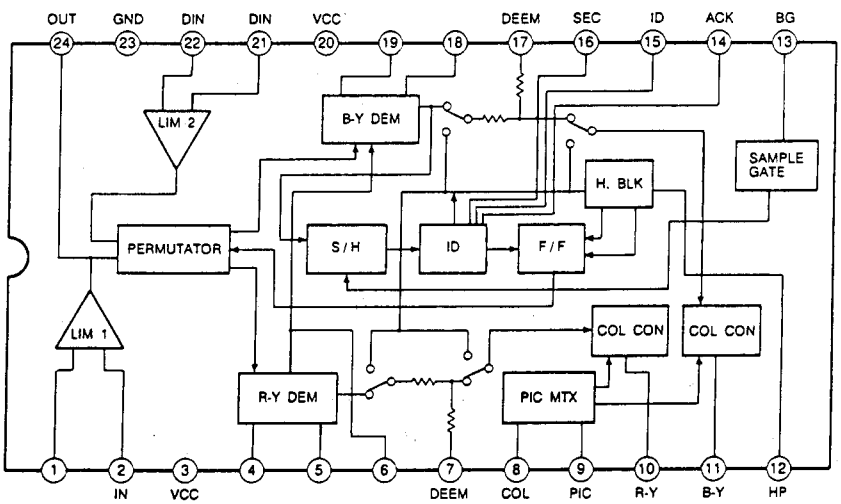


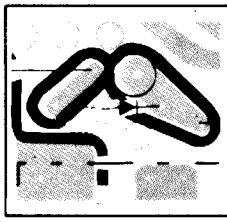
IC		DIODE		VARIABLE RESISTOR	
IC001	C – 8	D001	C – 9	RV301	B – 6
IC002	G – 10	D002	C – 8	RV302	B – 3
IC003	D – 8	D003	C – 9	RV502	E – 5
IC004	B – 7	D004	C – 9	RV503	G – 5
IC005	D – 7	D005	F – 10	RV551	G – 4
IC101	B – 1	D006	D – 8	RV552	F – 4
IC102	A – 7	D007	E – 10	RV801	E – 3
IC104	A – 2	D008	D – 10	RV802	E – 5
IC251	A – 9	D009	E – 10	RV803	E – 5
IC301	C – 5	D010	C – 10		
IC401	A – 3	D011	C – 10		
IC551	G – 5	D012	C – 9		
IC601	G – 6	D014	C – 9		
IC602	E – 6	D016	C – 7		
IC603	G – 5	D151	C – 8	DELAY LINE	
IC801	E – 4	D155	A – 2		
IC851	F – 5	D250	B – 9	DL301	B – 4
		D251	A – 8		
TRANSISTOR		D252	B – 9	IF BLOCK	
		D310	B – 5		
Q001	B – 8	D320	B – 4	IF201	B – 2
Q002	B – 3	D321	B – 6		
Q003	C – 7	D551	G – 4	TUNER	
Q004	B – 9	D561	E – 6		
Q005	D – 7	D601	C – 9	TU151	C – 1
Q006	C – 7	D602	G – 7		
Q007	B – 8	D603	F – 6	CRYSTAL	
Q101	A – 1	D604	E – 6		
Q102	A – 1	D605	E – 7	X301	C – 5
Q151	C – 3	D607	G – 6	X358	B – 5
Q152	C – 2	D608	E – 6	X443	B – 4
Q153	D – 3	D801	E – 1		
Q154	D – 3	D802	D – 6		
Q201	B – 1	D803	E – 4		
Q202	A – 2	D851	G – 3		
Q251	B – 8	D852	F – 3		
Q252	B – 8	D853	G – 3		
Q301	C – 4	D855	G – 3		
Q302	B – 6	D857	E – 3		
Q303	C – 3	D858	E – 3		
Q304	B – 6	D860	D – 2		
Q305	C – 4				
Q306	C – 4				
Q310	B – 5				
Q401	A – 4				
Q522	E – 5				
Q551	D – 6				
Q553	E – 5				
Q555	E – 5				
Q561	D – 6				
Q601	G – 6				
Q603	G – 6				
Q801	D – 2				
Q802	E – 1				
Q803	B – 5				
Q821	D – 4				
Q851	F – 5				

A Board IC301 CXA1213BS



A Board IC401 CXA1214P

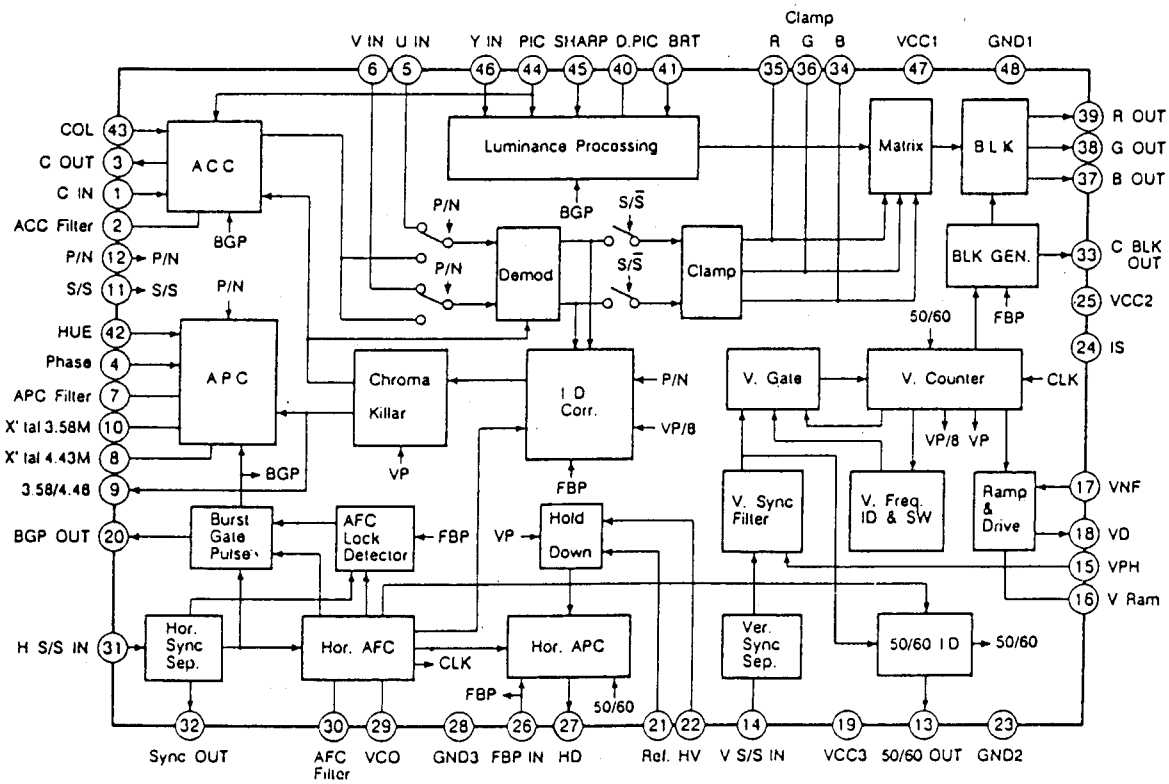




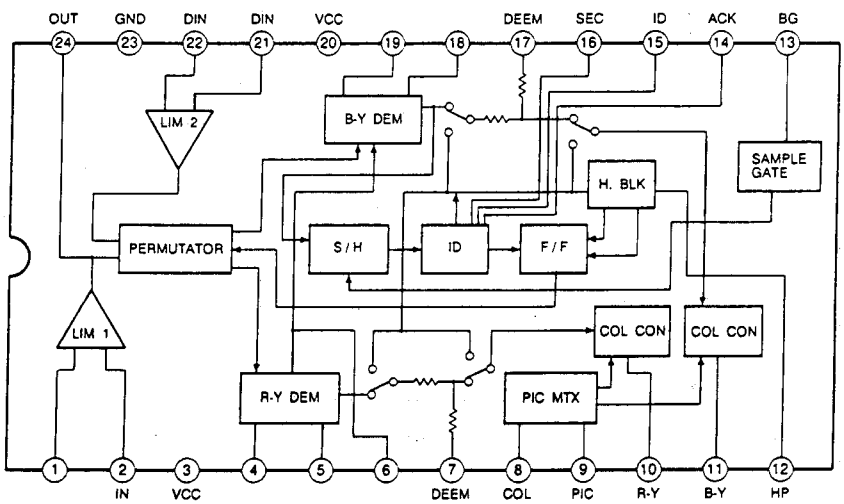
NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

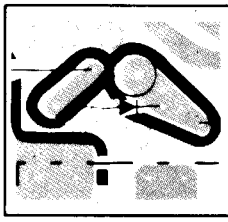
ODE	VARIABLE RESISTOR
C – 9	RV301 B – 6
C – 8	RV302 B – 3
C – 9	RV502 E – 5
C – 9	RV503 G – 5
F – 10	RV551 G – 4
D – 8	RV552 F – 4
E – 10	RV801 E – 3
D – 10	RV802 E – 5
E – 10	RV803 E – 5
C – 10	
C – 10	
C – 9	
C – 9	
C – 7	
C – 8	DELAY LINE
A – 2	
B – 9	DL301 B – 4
A – 8	
B – 9	
B – 5	IF BLOCK
B – 4	
B – 6	IF201 B – 2
G – 4	
E – 6	
C – 9	TUNER
G – 7	
F – 6	TU151 C – 1
E – 6	
E – 7	
G – 6	CRYSTAL
E – 6	
E – 1	X301 C – 5
D – 6	X358 B – 5
E – 4	X443 B – 4
G – 3	
F – 3	
G – 3	
G – 3	
E – 3	
E – 3	
D – 2	

A Board IC301 CXA1213BS



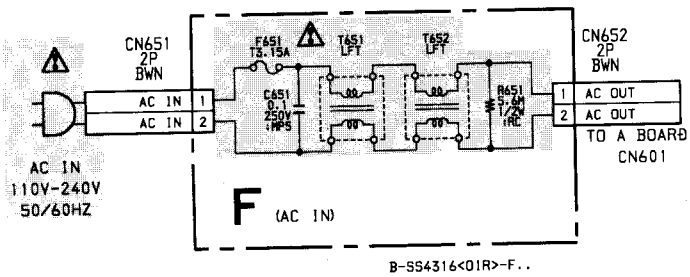
A Board IC401 CXA1214P



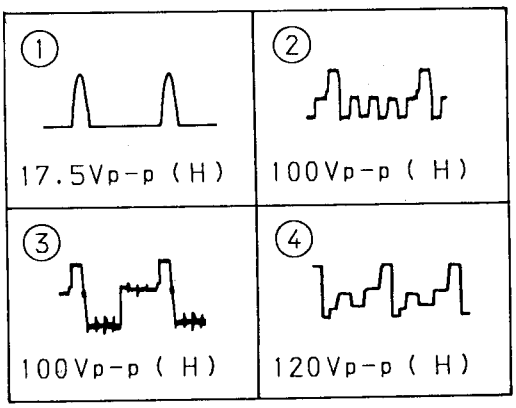


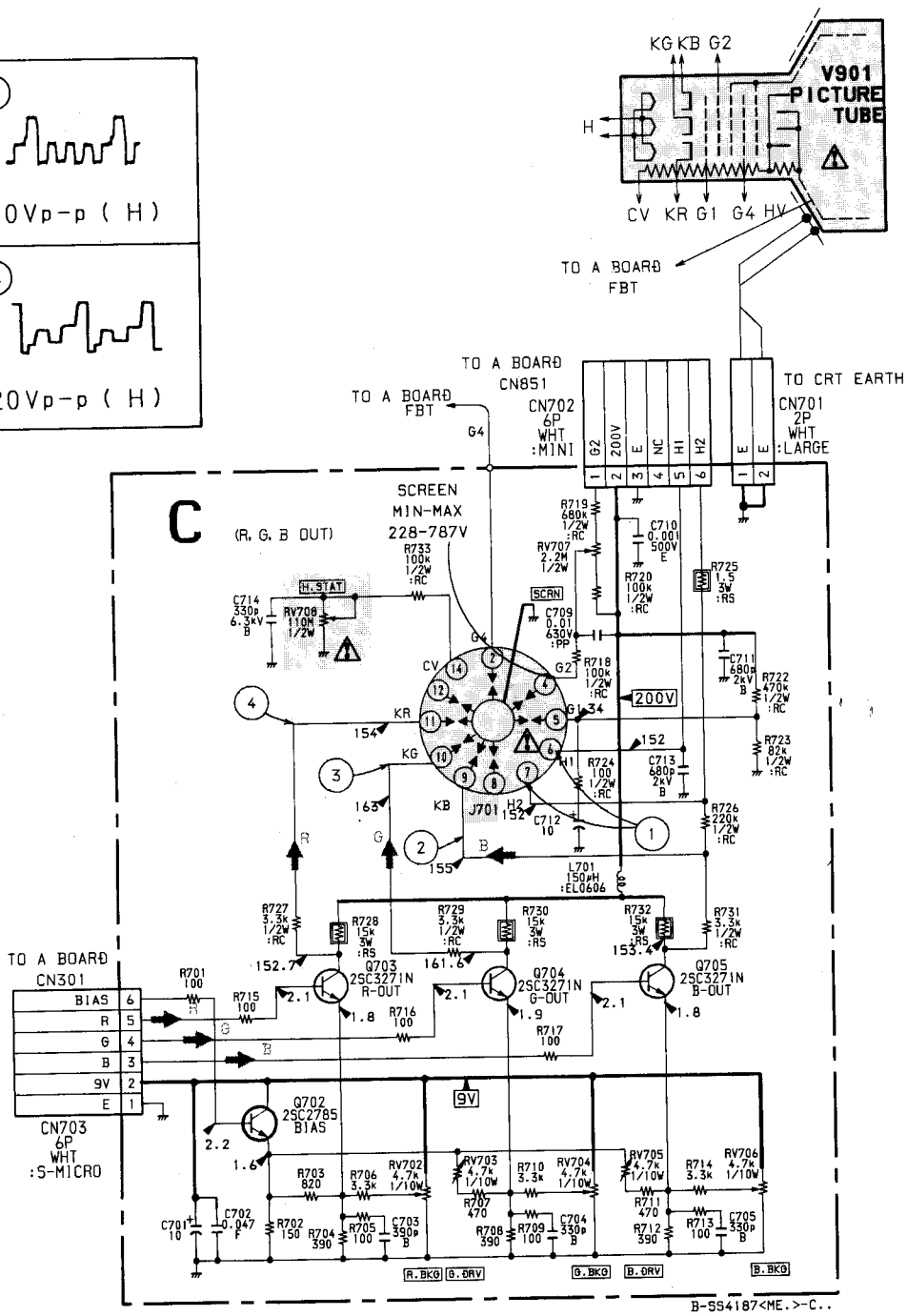
NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

(2) Schematic Diagram of C, F Boards



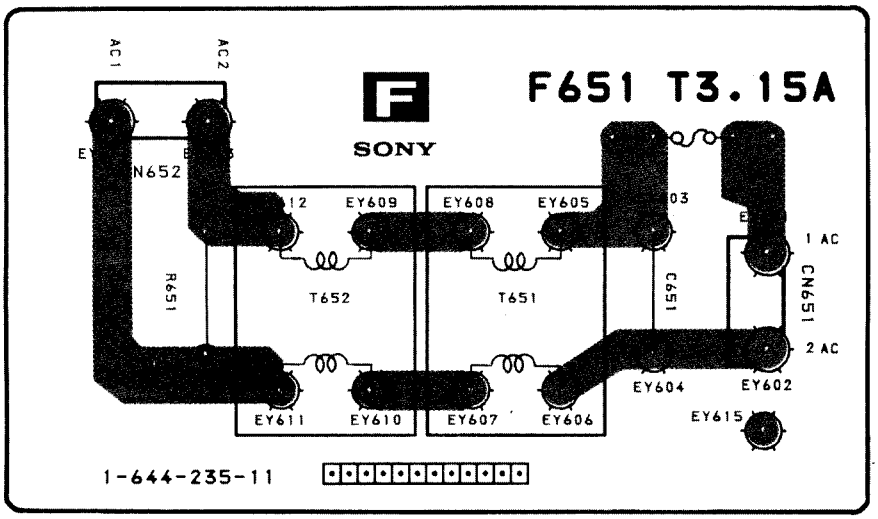
• C BOARD WAVEFORMS



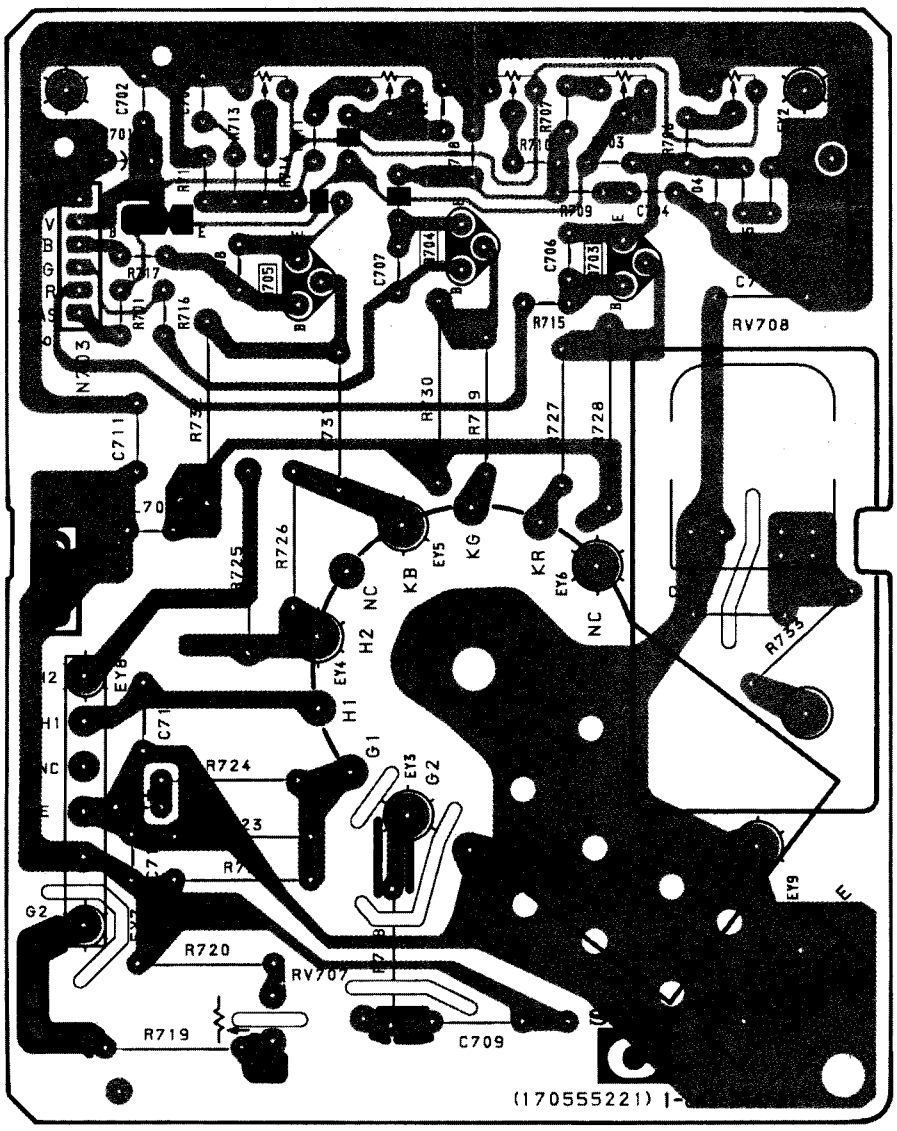


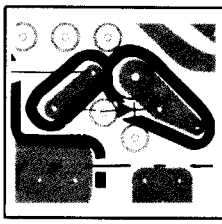
F [AC IN] C [R, G, B OUT]

– F Board –



– C Board –

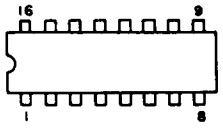




NOTE:
The circuit indicated
600 Vp-p. Care must
inspection or repairing

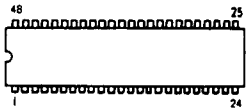
5-3. SEMICONDUCTORS

BA5412
MC14052BCP
TDA8444
μPD4053BC



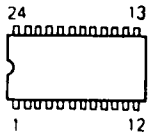
(TOP VIEW)

CXA1213S
SAA5246AP/T



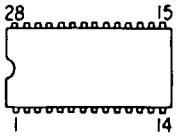
(TOP VIEW)

CXA1214P



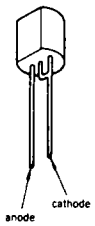
(Top view)

CXK5864BSP-10L
MAB8461P-W220

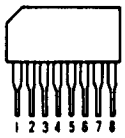


(Top view)

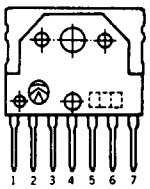
HZT33-02
μPC574J



LA7016



LA7830



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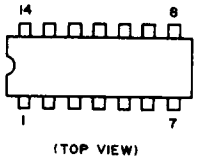
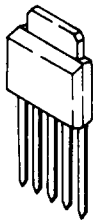
MC14077BCP
SN74LS27N

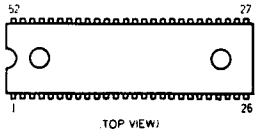


(TOP VIEW)

L78LR05D-MA

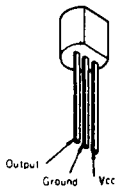


M34302M8-612SP

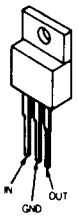


(TOP VIEW)

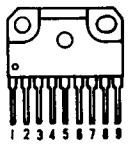
NJM78L12A
TA7805S



NJM78M09FA



STR-S6307



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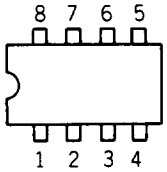
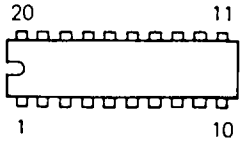
RC4558C



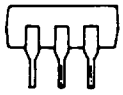
(Top view)

TA8184P
TDA8732

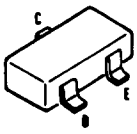


(Top view)

PC111LS



DTA114EK
DTC114EK
DTC144EK
2SA1162-G
2SC2712-YG



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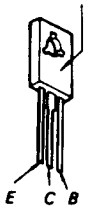
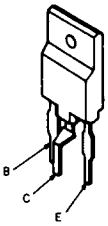
2SA1091R

2SC2785-HFE

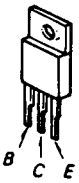
2SC3271-N
letter side



2SD1878-CA



2SD2012
2SD2061-E



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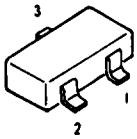

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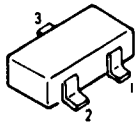

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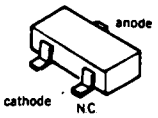
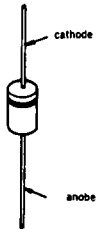
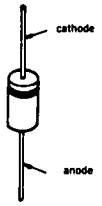


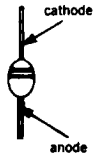
ERC06-15S
RGP10G
RU-3AM
R2M



EGP20G
RGP02-17
RGP15J



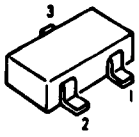
GP08D
U05G



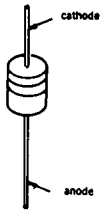
MC921

RBV-406H-01

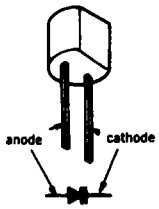
RD3.6M-B2
RD5.6M-B2



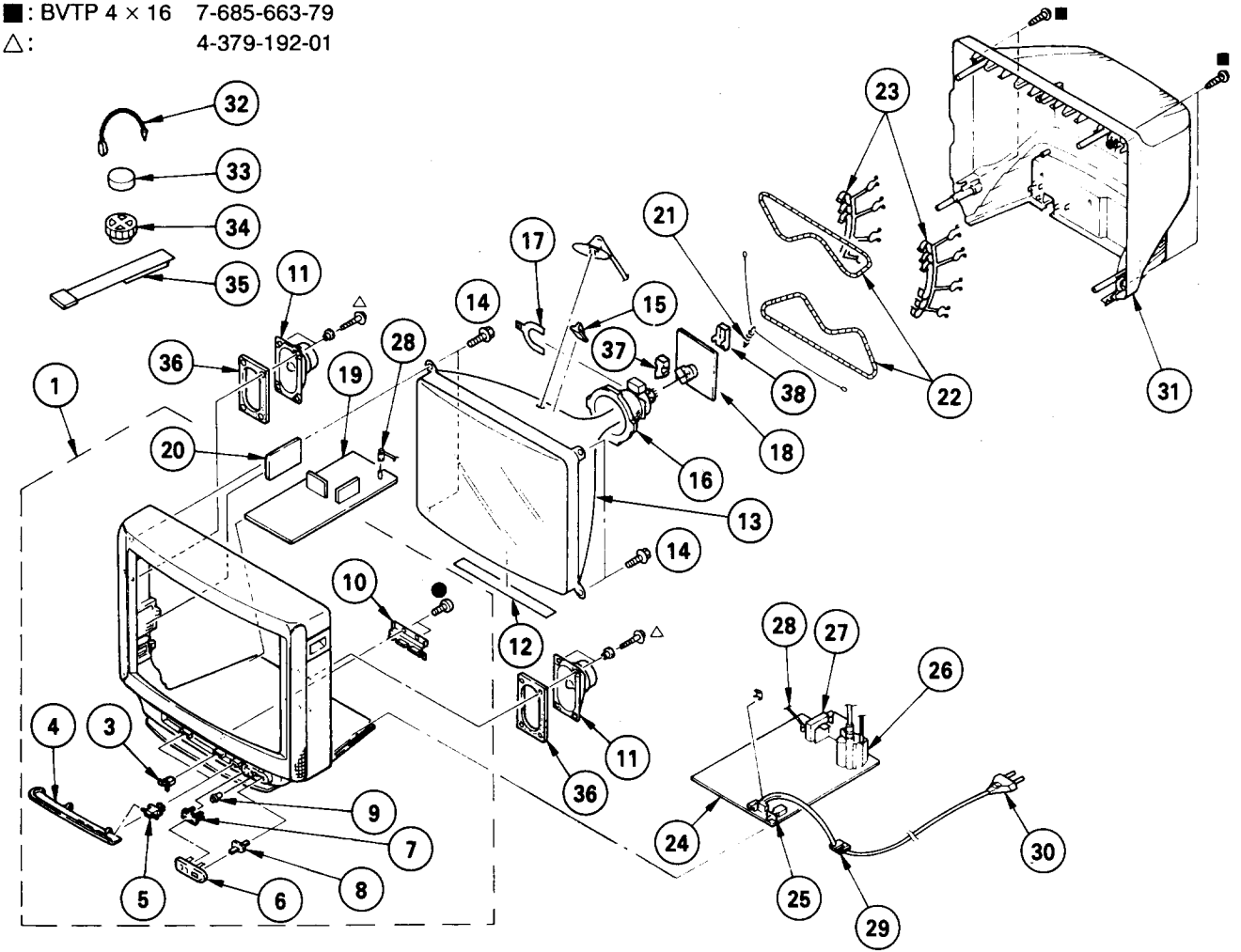
RD5.1ES-B2
RD5.6ES-B2
RD13ES-B2
RD7.5ES-B2
1SS119



SEL1222R-C

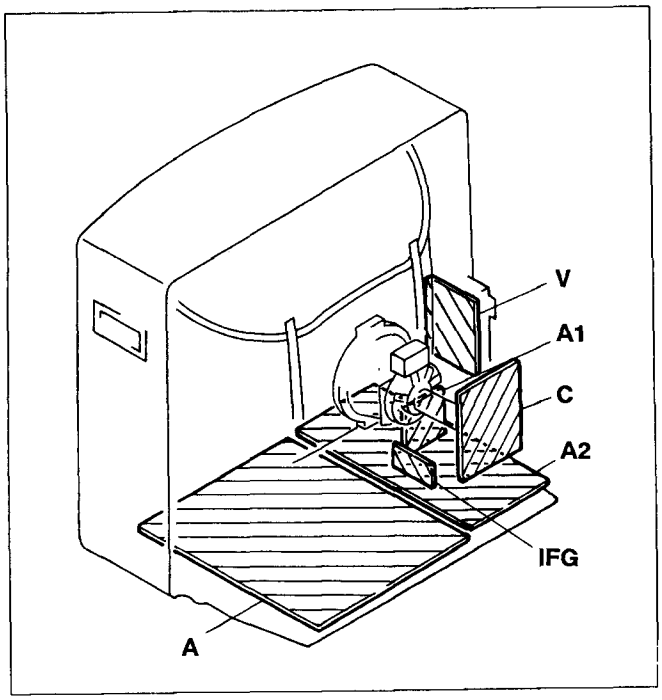


● : BVTP 3 × 12 7-685-648-79
■ : BVTP 4 × 16 7-685-663-79
△ : 4-379-192-01

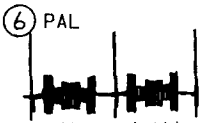
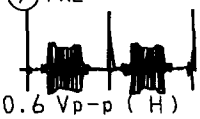
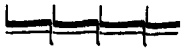
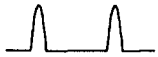
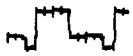
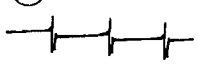


Note:

5-1. CIRCUIT BOARDS LOCATION



• A BOARD WAVEFORMS

① 6.0Vp-p (4.0MHz)	② 0.6Vp-p (H)	③ PAL, NTSC 0.5 Vp-p (H)
④ PAL, NTSC 0.5 Vp-p (H)	⑤ PAL 0.3Vp-p (H)	⑥ PAL  0.45 Vp-p (H)
⑦ PAL  0.6 Vp-p (H)	⑧ 0.26 Vp-p(4.43MHz)	⑨ 0.16Vp-p(3.58MHz)
⑩ 1.5Vp-p (H)	⑪  2.4Vp-p (V)	⑫  4.0Vp-p (H)
⑬ 2.0Vp-p (H)	⑭ 1.8Vp-p (H)	⑮ 4.0Vp-p (H)
⑯  4.0Vp-p (H)	⑰ 4.0Vp-p (H)	⑱ 0.9Vp-p (H)
⑲ SECAM 0.24Vp-p (H)	⑳ SECAM 1.0Vp-p (H)	㉑ SECAM 1.4Vp-p (H)
㉒ 3.3 Vp-p (H)	㉓ 50 Vp-p (V)	㉔  1.5 Vp-p (V)
㉕ 900Vp-p (H)	㉖ 170 Vp-p (H)	㉗ 10 Vp-p (V)